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WAR MACHINE

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Pistols of the Great War

It was a pistol shot that led to the start of World War I, and once the conflict had engulfed the world, pistol production accelerated. Carried by officers, specialists and airmen, they were used on every front; some weapons stayed in service until after World War II, and a couple are still in production.

An officer of the Worcesters holds a service 0.455 Webley revolver during the battle of the Aisne, May 1918.

World War I was probably the last major conflict in which the pistol was involved as a major weapon of war. Most of the pistol's drawbacks (such as lack of useful range, lack of stopping power at other than close quarters and so forth) were all rendered void by the very nature of the conflict in the trenches. Most soldiers suffered from long-range weapons such as artillery, but often had to fight within the close confines of trenches or in hand-to-hand fighting. Here the pistol retained its combat effectiveness to a greater extent than many other weapons, including the rifle, and it was only when the sub-machine gun came on the scene in 1918 that the days of the combat pistol were numbered.

The number of types of pistol in use during World War I was remarkable. With the introduction of the automatic pistol, small-arms inventors used their considerable ingenuity to produce all manner of automatic self-loading mechanisms. Sometimes the ingenuity was used to get round existing patents while at other times sheer inventiveness won through. The revolver was still around in many forms, some of them getting rather long in the tooth, even by contemporary standards, but such was the state of development of many automatic pistols of the period that revolvers were frequently preferred to the automatic on grounds of reliability.

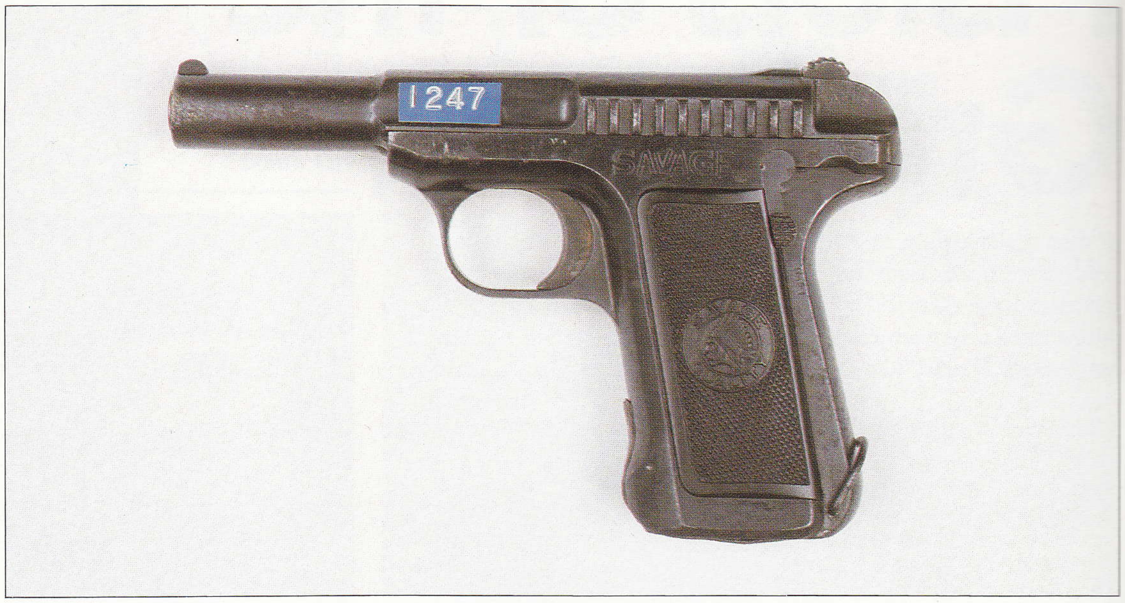
Some 'classic' pistols will be found in this study, some of them to be just as famous during World War II. The P '08 Luger is included along with the Mauser C/96 and such stalwarts as the Webley revolvers. Oddities such as the Webley Fosbery automatic revolver are also included, along with more orthodox weapons such as the first Beretta automatic pistol.

All these weapons had their part to play in World War I. On the whole they were large and heavy weapons that fired heavy bullets, often with considerable man-stopping power and the ability to produce dreadful wounds. Most of them have now passed from the scene, apart from those in the hands of collectors, but they were formidable weapons during the 'Great War'.

Royal Navy officers use a dangerous combination of weapons: Webley and Scott automatics and Webley revolvers. The mighty 0.456 bullet fired by the automatics was propelled by a fast-burning 7-grain charge, and it fitted the 0.455 revolver. If loaded by mistake it would blow the cylinder out.

USA/PORTUGAL

Savage Model 1907 and 1915



This Savage Automatic belongs to the Weapons Museum at the School of Infantry, Warminster. The Savage design originated from the 1904 patent of E.H. Searle and was an entry to the US Army pistol trials of 1907, which were won by Colt.

The **Savage Model 1907** pistol was produced by the Savage Arms Corporation of Chicopee Falls, Massachussets, and other than some commercial sales it was acquired by only one military customer, the Portuguese armed forces. This has led to the Savage pistols being virtually identified with the Portuguese though their origins were definitely American.

The Savage Model 1907 was originally designed to take part in the US Army trials that led to adoption of the Colt M1911 automatic. The Model 1907 showed up well in the trials, and although the decision went elsewhere the Savage Corporation attempted to sell the design abroad. It was not successful until 1914, when the Portuguese found themselves cut off from their usual suppliers in Germany who were selling them versions of the Pistole '08 (the Luger). The Portuguese thus decided to adopt the Savage pistol in its original US Army competition form (as the **M/908**) and in a slightly modified version (as the **M/915**), both rechambered from their original 0.45 in (11.43 mm) to 7.65 mm (0.315 in).

The Model 1907 used a retarded blowback mechanism, an operating system rarely used in pistols. On the Model 1907 this involved the barrel turning through lugs before the slide was allowed to move to the rear after firing, but the system adopted by Savage was only marginally more effective than a simple blowback. It was effective enough with the 7.65-mm cartridge employed but would probably have been less successful with anything heavier over a prolonged period of firing.

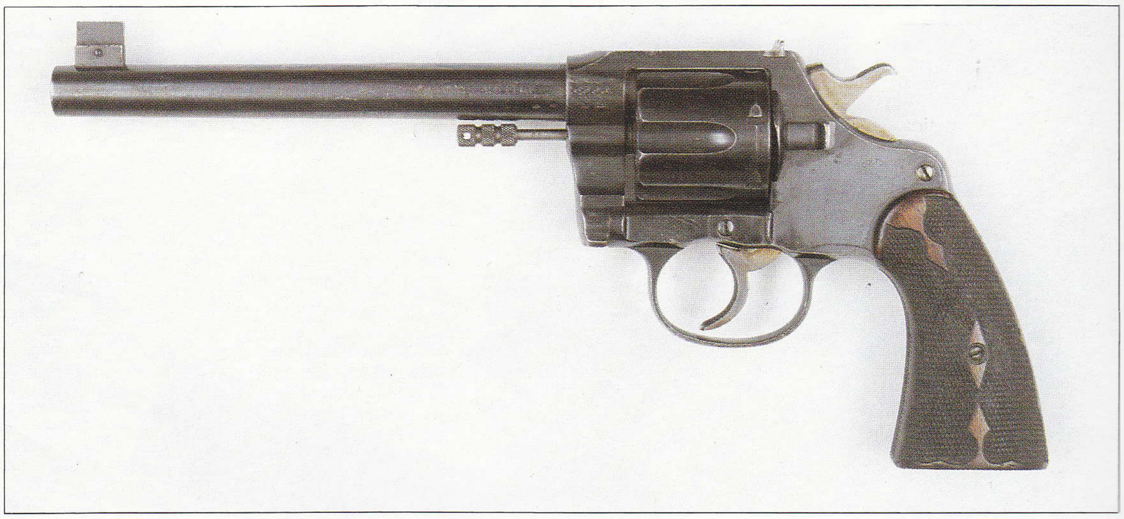
The Portuguese found the Savage pistols effective enough, but the pistol had one unfortunate safety problem. It was possible to rest the striker attached to the cocking spur (the design featured a concealed hammer) in such a way that the striker touched the base of a round in the chamber. Any sudden jar could therefore fire the weapon, often to the user's disadvantage (at best). This led to drills that ensured the pistol was cocked only when required and if no firing was carried out the pistol had to be unloaded again. This was obviously not a good feature for a combat pistol, so as soon as they could the Portuguese reverted to procuring 9-mm Parabellum pistols of various types; they also used the British 0.455-in Webley revolvers.

Specification

M/908
Calibre: 7.65 mm (0.315 in)
Weight: 0.568 kg (1.252 lb)
Lengths: overall 165 mm (6.5 in); barrel 95 mm (3.75 in)
Muzzle velocity: 290 m (950 ft) per second
Magazine capacity: 10 rounds

USA

0.45-in M1917 revolvers



The US Army adopted several revolvers in 1917 chambered for 0.45 Auto, like the M1911 Automatic. US enthusiasm for 0.45 calibre stemmed from the failure of 0.38s like this Colt M1892 to stop charging Filipino tribesmen.

By 1916 the demands for all types of war materials and weapons were outstripping the production capabilities of British and Commonwealth industries, so orders for various items were placed in the USA. Among these items were revolvers, and to save time it was decided to adopt American designs rechambered to accept the British 0.455-in (actually 0.441-in/11.2-mm) pistol cartridge. Many thousands of these pistols were accordingly placed into production by Smith & Wesson and the Colt Firearms Company, and were duly delivered to the British and Commonwealth armed forces.

Then in 1917 the USA entered the war and found itself even shorter of weapons to equip its expeditionary force than the British had ever been. It was time for yet another hasty rearrangement of production priorities and the British 0.455-in revolvers were quickly altered to accommodate the standard American 0.45-in (11.43-mm) pistol cartridge. This caused some problems, not in the pistol designs which remained unchanged (and virtually identical to each other) but in the loading. The British cartridge case had a distinct rim at its base while the American case, intended for use in automatic pistols, did not. Therefore as the cartridges were placed in the cylinder chambers they slipped through. This was avoided by loading the American rounds in 'half-moon' pressed steel clips, each holding three rounds. The clips allowed the rounds to be loaded quickly and held the cases in place for firing and unloading.

Both revolvers were provided with the designation **M1917**, the maker's name being appended to denote the different models. Although the two pistols were virtually identical to the users, there were in fact slight differences. The Colt revolver was based on the 'New Service' model dating from 1897, while the Smith & Wesson pistol was a 'new' design based on the company's existing range of models. Both used swing-out cylinders which, on the M1917 versions, had recesses in their rear face to accommodate the half-moon clips. Both were large and heavy revolvers.

Once in US Army service both pistols proved rugged and reliable. The three-round clip system gave no trouble and proved so successful that it was even adopted for service by other nations such as Brazil, which made large-scale purchases of the Smith & Wesson M1917 in 1938. Both pistols were still in service during World War II, although by then most were used by the British armed forces.

Specification

M1917
Calibre: 11.43 mm (0.45 in)
Weight: (Colt M1917) 1.134 kg (2.5 lb); (Smith & Wesson M1917) 1.02 kg (2.25 lb)
Lengths: overall 274 mm (10.8 in); barrel 140 mm (5.5 in)
Muzzle velocity: 253 m (830 ft) per second
Cylinder capacity: 6 rounds in two 3-round clips

ITALY

Pistola Automatica Beretta modello 1915

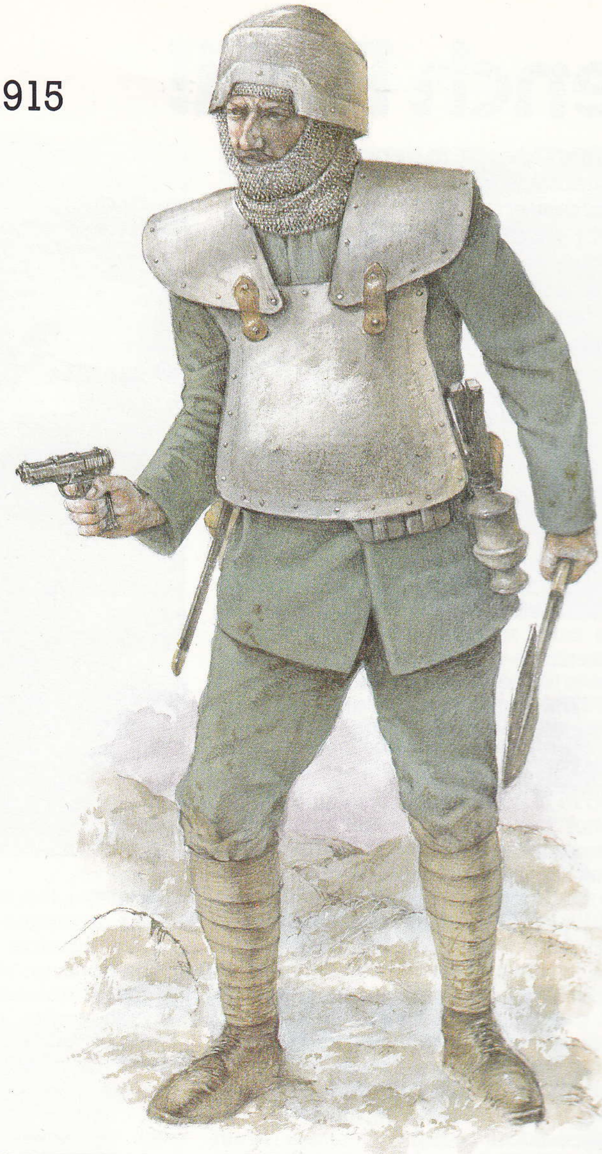
The **Pistola Automatica Beretta modello 1915** was the first of the Beretta automatic pistols, but it lacked the degree of manufacturing finesse that became the hallmark of later Beretta models. This was mainly because it was produced in a great hurry. When Italy entered World War I in 1914 it did so at a time when the levels of all kinds of weapons were very low, and pistols were no exception to this failing. Italian industry was rushed into production to churn out as many weapons as quickly as possible, and the Beretta modello 1915 was one result of this policy.

For all the rush with which it was placed into production, the modello 1915 showed all the basic features of the Beretta designs. The slide had the cut-away section over the barrel that was to become an instant recognition feature, but the overall appearance lacked the degree of balance and class that were to appear later. Modello 1915s were initially issued in 7.65-mm (0.301-in) calibre, but some were later produced to fire the 9-mm (0.354-in) special Glisenti cartridge; these versions had a more powerful return spring. A relatively small number were also produced to fire the 9-mm Short round, a round much less powerful than the 9-mm Parabellum. The mechanism was simple blowback and the firing mechanism used a concealed hammer. The 7.65-mm version did not use an ejector to force the spent cartridge cases from the weapon after firing: the cases were pushed out by coming into contact with the firing pin that had been forced through the breech block by the hammer at full recoil; the larger 9-mm cartridge versions used a conventional ejector stop.

As was to be expected under wartime conditions, there were several detail variations between models. A large safety catch with differing shapes and locations was one, and there were also changes in butt grip materials and finish. One thing these modello 1915s shared with all users was a general appreciation of the weapon's reliability and good handling. The modello 1915 introduced the basic pattern of what were later to become some of the finest automatic pistols ever produced. Even now the name Beretta stands for sound design and good finish, but examining a modello 1915 today few of these attributes are obvious, due mainly to the rapidity with which they were placed in mass production. But the seeds were there.

Specification

Beretta modello 1915
Calibre: 7.65 mm (0.301 in) or 9 mm (0.354 in) Short
Weight: 0.57 kg (1.25 lb)
Lengths: overall 149 mm (5.87 in); barrell 84 mm (3.31 in)
Muzzle velocity: (9-mm Short) 266 m (873 ft) per second
Magazine capacity: 8 rounds



An Italian 'Deathshead' pioneer, in full trench raiding kit, has a medieval appearance. In the savage close-quarter fighting in the trenches, the entrenching tool and pistol were more sensible weapons than a bulky rifle; the body armour was heavy, but provided good protection. Note the wirecutters carried on the belt.

ITALY

Pistola Automatica Glisenti modello 1910

The **Pistola Automatica Glisenti modello 1910** was often known just as the **Glisenti**, but an essentially similar pistol was also issued to the Italian army and known as the **Brixia**. The initial pistol, the Glisenti, was designed in Switzerland but initial production was started in Italy in 1905 at the Societa Siderurgica Glisenti at Turin. In 1910 the pistol was accepted for Italian army use. Two years later, a **modello 12** produced by the Brixia concern, appeared. This modello 1912 was almost identical to the modello 1910 but lacked the grip safety. For simplicity's sake these two pistols will be treated as one and the same.

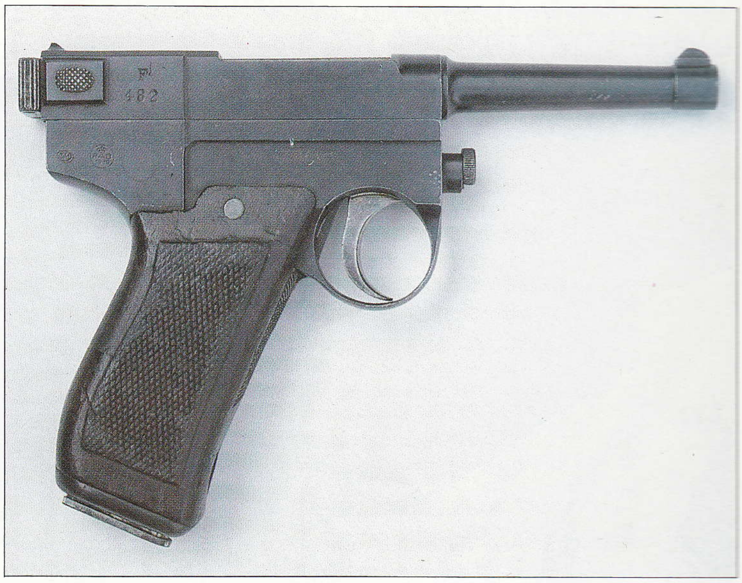
The Glisenti modello 1910 used a mechanism that employed a locked-breech system, but for various design reasons this system was not very effective. Therefore it could not use full-power cartridges such as the 9-mm (0.354-in) Parabellum, but instead had to fire its own special cartridge with a less powerful charge. The difficulty with this special cartridge was that it was virtually identical in shape and appearance to the Parabellum round, and that use of the Parabellum round in the Glisenti pistol could, and often did, cause trouble. Some of these troubles could be very hazardous to the firer. Under normal circumstances this potential problem could be avoided but under combat conditions the two types of cartridge could be easily mixed up.

When firing the correct cartridge the modello 10 proved to be reliable enough, but suffered from one basic design weakness. The designers had ensured good maintenance access by allowing almost the entire left-hand side of the pistol frame to be removable. This certainly made for good cleaning and repair, but the removable plate made the entire pistol weak on that side. Under combat conditions the pistol frame could become distorted to an unacceptable degree causing jams and other more potentially severe problems, or the access plate could simply fall off. Thus the modello 1910 was increasingly regarded with suspicion, and whenever possible knowledgeable users plumped for other types of side-arm.

This did not prevent the Glisenti pistols from being carried and used throughout World War I and even during World War II. If looked after and not subjected to too much hard use, the Glisenti/Brixia pistols were sound enough, but under severe combat conditions they often proved to be less than satisfactory.

Specification

Glisenti modello 1910
Calibre: 9 mm (0.354 in)
Weight: 0.8 kg (1.76 lb)
Lengths: overall 211.2 mm (8.315 in); barrel 95 mm (3.74 in)
Muzzle velocity: 258 m (846 ft) per second
Magazine capacity: 7 rounds



The Glisenti was not as popular as the Beretta: the left-hand side of the frame detaches, reducing its strength, and the breech accepted 9-mm Parabellum – far more powerful than the 9-mm Glisenti cartridge, and able to shatter the weapon.

Trench Raid!

To gain intelligence, to deny the enemy rest, to maintain the troops' fighting spirit; these were the justifications given for a night-time foray across no-man's land. Whatever the reason, trench raiding was a desperate business – a brutal affair, fought out with pistols, grenades and sharpened entrenching tools.

Stand-to in a British trench, January 1918. The capture of a sentry in a front-line firing bay often formed the objective of a trench raid. Exchanges of raid and counter-raid usually preceded a major offensive, although on quieter sectors unofficial truces were common.

By the winter of 1916-7 the fighting on the Western Front had become firmly static. The two trench lines faced each other across a barren wilderness that was littered with barbed wire, rubbish and corpses. Everything was covered in a film of dirt, mud and debris. A drizzle of artillery and mortar fire constantly rearranged the landscape and the shell holes, this drizzle sometimes not falling for days but at other times miniature 'hates' springing up to last for hours.

In the trenches the soldiers of both sides did their best to make their lot as comfortable as possible. What time was left after burying the constant supply of the dead, fatigues, cleaning weapons, fetching ammunition and food, repairing trench damage and keeping warm was dedicated to making the best possible use of what shelter there was and sometimes writing home. This routine was followed day in and day out. During the winter months there were few full-scale battles to expect, so life became a never-ending series of days when soldiers did little more than exist.

If it had been up to the soldiers themselves they would have kept things at that level. Despite the general awfulness and boredom of their troglodyte existence in wet holes in the ground, the men knew it was infinitely better than having to go 'over the top' and face enemy machine-guns.

But their leaders thought otherwise. From time to time they ordered that most dreaded duty, the trench raid. Some soldiers welcomed the chance to 'have a crack at the other side', but most men did their best to avoid attention when personnel were being detailed. The purposes of these raids were several. Often it was to discover the exact location of the enemy's trench layouts or to discover what units were there and in what strength, matters which even the increasing number of photographs taken by the aircraft and balloon units could not always show. The ones the soldiers disliked most were the raids that were supposed to 'raise morale', 'instil fighting spirit in the troops', and similar reasons deemed fatuous by all who had to participate. By early 1917 most soldiers, even the newest recruits, could see through that sort of talk.

The preparation for a raid was usually the same. A team of about six men, sometimes more but rarely less, was drawn up and the unfortunates started to get themselves ready about lunch-time on the day before the raid.

Trench raids were almost always carried out at night, sometimes in up to company strength, but most of them were by small teams. The make-up was generally much the same. The raid was led by a young subaltern, fresh to the trenches and with an average life expectancy of six weeks: by 1917 he was only too aware of that fact and usually behaved accordingly. His second-in-command was an NCO, usually a sergeant. The rest were privates, volunteers and conscripts alike.

Dugout briefing

The preparations started with a briefing for the officer and his NCO. This was normally carried out in the company dugout, some way back from the front-line trenches. The objective of the raid was spelled out (if there was one) and information was provided on what was already known. If a diversion was to be created to distract the enemy's attention that too was explained. The company sergeant major made arrangements for extra rations and any special equipment. The rest of the afternoon was spent trying to get some rest, if possible, and preparing kit and equipment. Rifles were not often carried on raids by 1917. The troops had learned they were too awkward in the close confines of trenches and they had learned the value of other weapons. Pistols were used whenever possible, especially revolvers as they were considered more reliable. Even the ordinary soldiers carried such weapons if they were available. They also carried short-handled trench spades with shar-

Returning to the safety of their own lines could be a problem for trench raiders; only a short length of friendly trenches could be expected to be warned, and mistakes did occur. Here a Vickers machine-gun lays down suppressive fire on the German communications trenches, January 1918.

pened edges, clubs with fearsome iron heads, trench knives or machetes; some men even favoured heavy knuckle-dusters they had fashioned from scrap during periods of boredom. One weapon always carried was the grenade, in egg and stick form: each soldier had a canvas satchel filled with them.

Last-minute checks

As the evening gloom deepened the final preparations took place. Faces and hands were liberally covered with mud to darken them, and all loose equipment was secured. Last-minute checks were made on pistols and watches, and the finishing touch was provided with every man getting a liberal tot of rum.

By this time every man had sunk into his own world of fear, expectancy and alertness. Few words were exchanged between the members of the team while their mates stood back and watched them silently. At the chosen hour the diversion might start with a sudden burst of firing away to one flank. At this the team slithered over the top and moved forward. The first men over carried heavy wirecutters that could also double as clubs, but initially they were used carefully to create gaps in the wire. The team moved forward keeping low, sometimes worming forward on their stomachs through shell holes and mud. If flares arose, as they often did, the team froze and hoped that they would not be spotted.

As they approached the enemy wire the cutting became slower and more careful, hopefully to avoid disturbing the tin cans that the enemy hung on the wire to create an aural alarm of any movement. By 1917 this was such an old trick that many could easily avoid it and, with luck and some groping through the dark, the enemy trench was just ahead. Sometimes the glow of a sentry's cigarette or pipe could be detected.

Over the top

When all were in some sort of jumping-off position the officer gave his signal. It was then time to move fast. Hauling themselves up out of the mire the mud-encrusted soldiers leapt into the trench, often heralded by a few grenades and a flurry of pistol shots. Any unfortunate in the way was simply struck down, and it was here those short-handled spades came in useful. Any dugout nearby was neutralized by throwing in a few grenades. Fallen bodies were immediately looted for papers (and tobacco) and uniform insignia were hacked off with knives.

All this took but a few seconds, for the team knew that retaliation was nigh. It often came with a rush around a trench traverse with an equally small team of men armed, as the raiders were, with grenades and pistols. Trench warfare was then reduced to its lowest level as men scrambled at each other with the certain knowledge that it was 'him or me'. There was no time or opportunity for tidy combat as mud-encrusted men grappled with each other to survive in the darkness. Pistols flashed, spades and knives were swung about and the club was as effective as the bullet. If the raiders were quick and ready enough they usually had a chance of getting out. If they could subdue or dominate the unfortunates in their immediate vicinity they moved on to discover trench layouts, locate dugouts (and attend to them with grenades) and find the hated machine-guns and trench mortars. Any such weapons were disabled with clubs or the ever-useful grenades. All the time bodies were searched, anything portable was taken and booty was pushed into uniforms or packs.

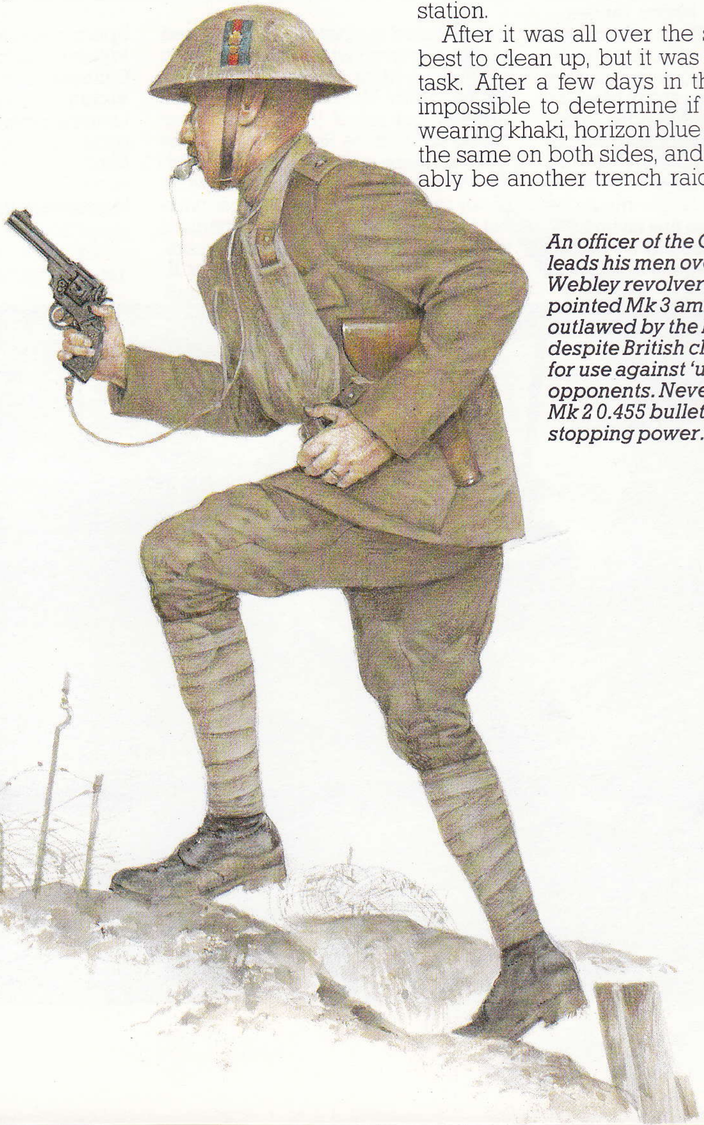
Night attacks on a larger scale were occasionally launched by both sides on the Western Front. Much of the power of defensive weapons was negated by nocturnal operations, which nevertheless proved even harder to control than daylight battles. Here, flares light up the sky over Beaumont Hamel during the British attack, 2 July 1916.

Then it was time for the off, the men dragging any of their own less seriously wounded with them. If possible, some terrified prisoner would be dragged off as well. On the way back there was no time for finesse. It was simply a rush across no-man's land before artillery or machine-gun fire could catch them in the open. As the raiders approached their own trenches shouts and challenges were exchanged and then, hopefully, it was back to the safety of their own stinking but suddenly welcoming trench.

Once back heads were counted, wounds dressed and hopefully some rum or something hot was passed around. Then the tiredness after the tension sank in and sleep, even in a wet ditch, was welcome. But the officer and NCO, if still alive, had to report back with their findings and a few pathetic remnants of cloth or brass. Prisoners, if any, were herded off to the rear under guard and the wounded were moved to the horrors of the front-line dressing station.

Hauptmann Ruter, 27th Infantry Regiment, poses by his sniper post in December 1914 when the trench lines had just been established from Switzerland to the Channel. The steel loophole plates, bolted together, were eventually replaced by concrete pillboxes which provided better protection against artillery and bomb-throwing raiders.

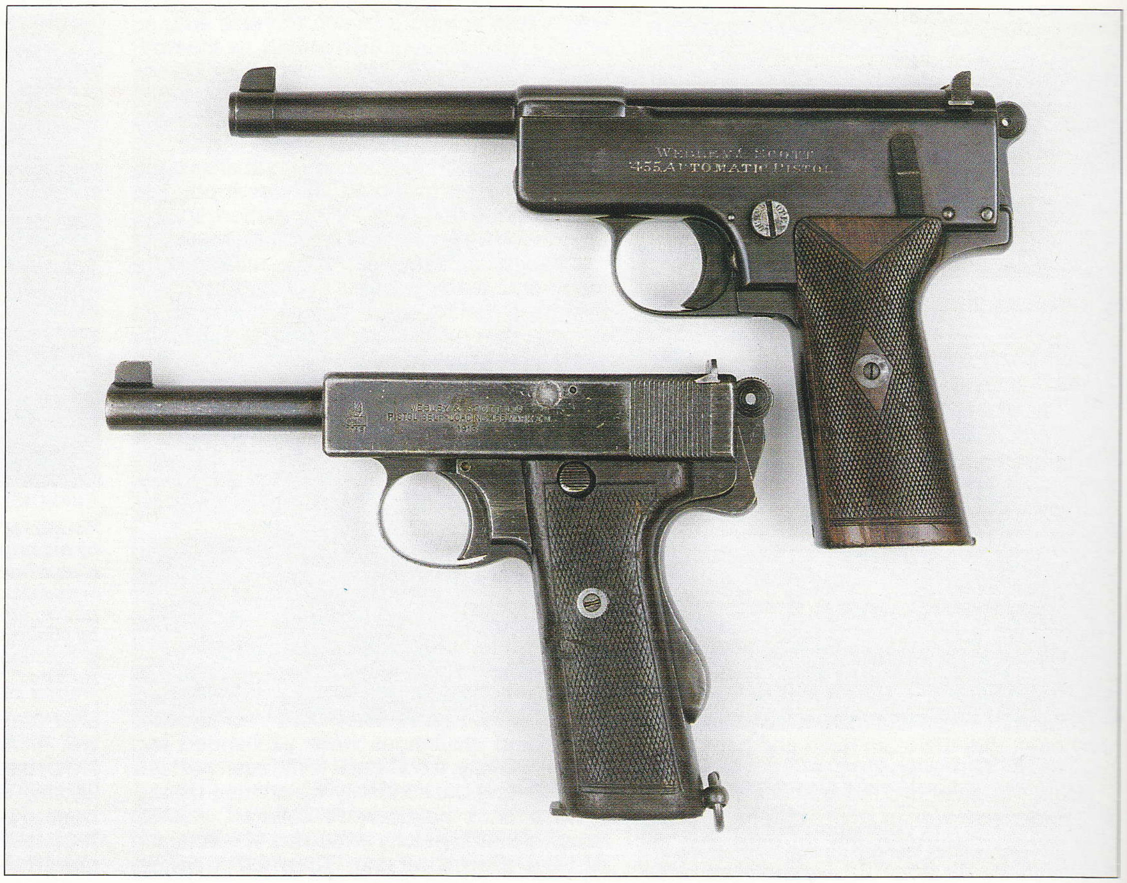
After it was all over the survivors did their best to clean up, but it was usually a hopeless task. After a few days in the trenches it was impossible to determine if the soldiers were wearing khaki, horizon blue or field grey: it was the same on both sides, and there would probably be another trench raid the next night.



An officer of the Grenadier Guards leads his men over the top, service Webley revolver in hand. The hollow pointed Mk 3 ammunition had been outlawed by the Hague Convention, despite British claims that it was only for use against 'uncivilized' opponents. Nevertheless, standard Mk 2 0.455 bullets still had awesome stopping power.

UK

Webley & Scott self-loading pistols



Adopted by the Royal Navy in 1914 and later by the artillery and RFC, the ungainly Webley & Scott 0.455 was not wildly popular.

The Webley & Scott self-loading pistols must rank as among the most awkward-looking pistols ever designed, but in use they were reliable. The first of them was accepted for government service in 1912, mainly for police use, and by 1914 the **Webley Self-Loading Pistol Mk I** was in use by Royal Navy and Royal Marine landing or boarding parties. Later more were issued to the newly-formed Royal Flying Corps and to some Royal Horse Artillery battery personnel.

The basic design used a very positive locking system that ran in a series of angled grooves and lugs. This was just as well for the pistol continued to use the 0.455-in (actually 0.441-in/11.2-mm) cartridge but in a much more powerful form, so much so that for many years it remained the world's most powerful pistol cartridge. This cartridge had a charge so heavy that it could cause serious damage to pistol and user if fired from any of the 0.455-in revolvers. Some pistols were produced to fire the 0.38-in (9.65-mm) Super Auto and 9-mm (0.354-in) Browning long cartridges, but few of these appear to have been used by the British military.

The pistol had a a few odd design features all of its own, one being that it was possible to partially withdraw and lock the box magazine to allow single rounds to be fed into the chamber through the ejection slot, leaving the full magazine topped up for emergency use. There was provision on most versions for a flat wooden shoulder stock to be fitted to the butt for more accurate shooting at longer ranges.

These Webley & Scott self-loaders (the term 'automatic' was disliked by the British at the time) were massive pistols that took a lot of careful handling even at short combat ranges. They were well-built with a distinctive 'straight-line' appearance that was not helped by the almost square-set angle of the butt. This butt angle made the pistol rather difficult to fire instinctively, but deliberate shooting by a fully-trained user could be quite accurate. If all else failed the pistols could be used as clubs as even when unloaded each weighed 1.13 kg (2.5 lb). They were not generally liked. The Royal Horse Artillery got rid of theirs as soon as they could and the Royal Flying Corps were no more enthusiastic. As a result the Webley & Scott self-loaders were never accepted for full military service but the British armed forces continued to use the revolver for many years, officially until well after World War II.

Specification

Webley Self-loading Pistol Mk I

Calibre: 11.2 mm (0.441 in)

Weight: 1.13 kg (2.5 lb)

Lengths: overall(216 mm (8.5 in); barrel 127 mm (5 in)

Muzzle velocity: 236 m (775 ft) per second

Magazine capacity: 7 rounds

Naval aviation pioneer commander Samson and his Nieuport 10 prepare for another sortie over the Turkish lines at Gallipoli. Pistols were initially carried by airmen for personal defence in case of a forced landing.

UK

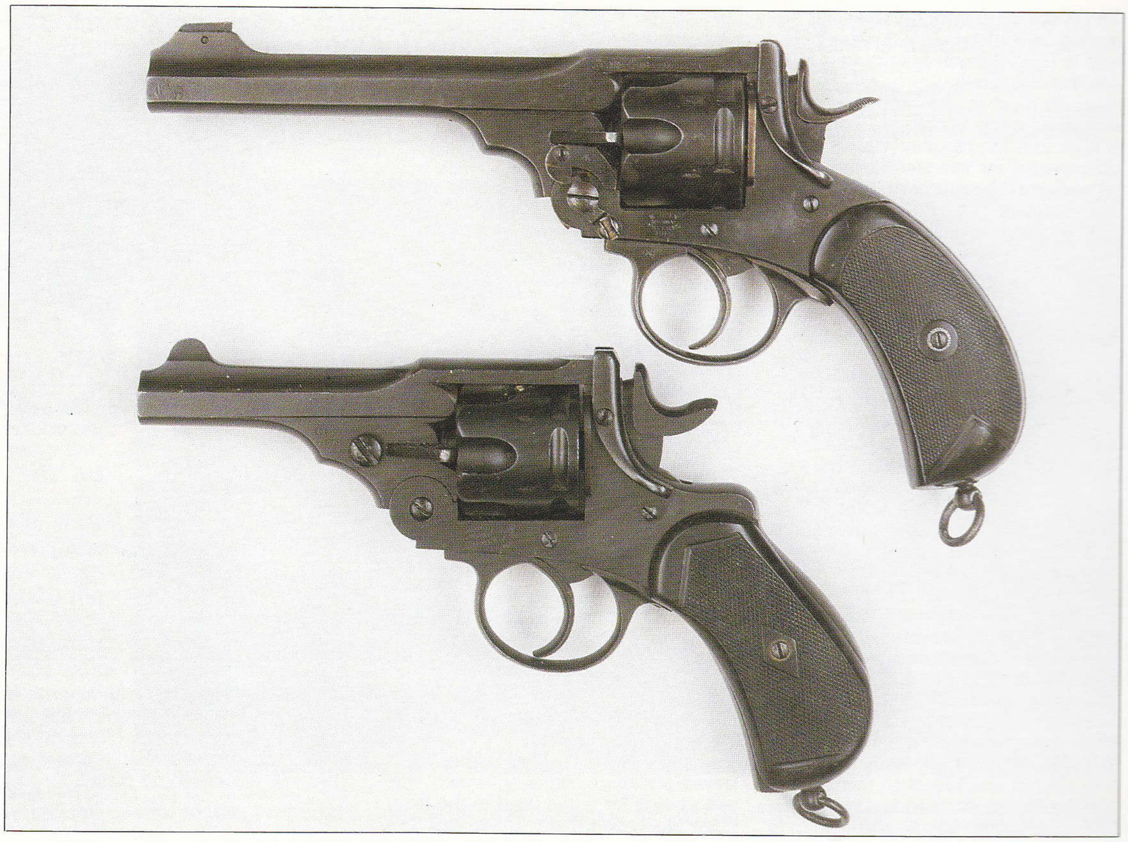
Webley 0.455-in revolvers

The 0.455-in cartridge fired by the Webley revolvers had an actual calibre of 0.441 in (11.2 mm), and its design reflected experience gained in colonial warfare. The cartridge was designed to be a certain 'man-stopper' for close-range use against charging native hordes, and the heavy bullet and powerful charge were certainly adequate for the task. The pistol intended for use with this powerful cartridge was produced by Webley & Scott Limited of Birmingham, which produced its first 0.455-in pistol in late 1887.

The **Webley & Scott Mk I** was the forerunner of a host of similar models, many of which are still around. The Mk I had a top-opening frame with an automatic ejecting device that pushed out spent cartridge cases as the frame opened. The butt had a distinctive shape that was termed a 'bird's head', and a lanyard ring was considered essential. A 102-mm (4-in) barrel was used, but later marks also used 152-mm (6-in) barrels.

After the Mk I came a large number of other marks and submarks with detail improvements and/or barrel length changes. The overall mechanism and design did not change much, although by the time the main World War I model appeared in 1915 the butt shape had changed and there had been some alterations to the sights. The Mk VI may be taken as typical of the World War I Webley 0.455-in revolvers, but many of the earlier marks remained in use.

The Mk VI was a very well made and solid revolver. It was also large and something of a handful to tote and fire. The powerful cartridge produced an equally powerful recoil and it was considered to have a useful combat range of only a few metres. For trench warfare this was ideal, and the Webleys were a preferred weapon for trench raids and close-quarter fighting. Under such circumstances the Webleys had one major advantage and that was that they were very forgiving of the dirty and muddy conditions under which they were often used. Even if a Webley jammed or ran out of ammunition it could still be used as an effective club. This attribute was developed by the introduction of the Pritchard-Greener revolver bayonet, a spike-type bayonet/trench knife that fitted over the muzzle with the metal hilt resting against the revolver frame. This fearsome pistol/bayonet combination appears to have been little used as it was never approved officially. A more useful device was a charger that held six cartridges ready for instant loading into the opened cylinder.



Still in service around the world, Webley revolvers are arguably the toughest and most accurate handguns ever made. Their calibre is 0.441 (11.2 mm) but, curiously, they have always been referred to as 0.455 (11.6 mm). Below is the Mk 1, introduced in 1887; above is the Mk 5 of 1913.

Specification

Webley Mk VI

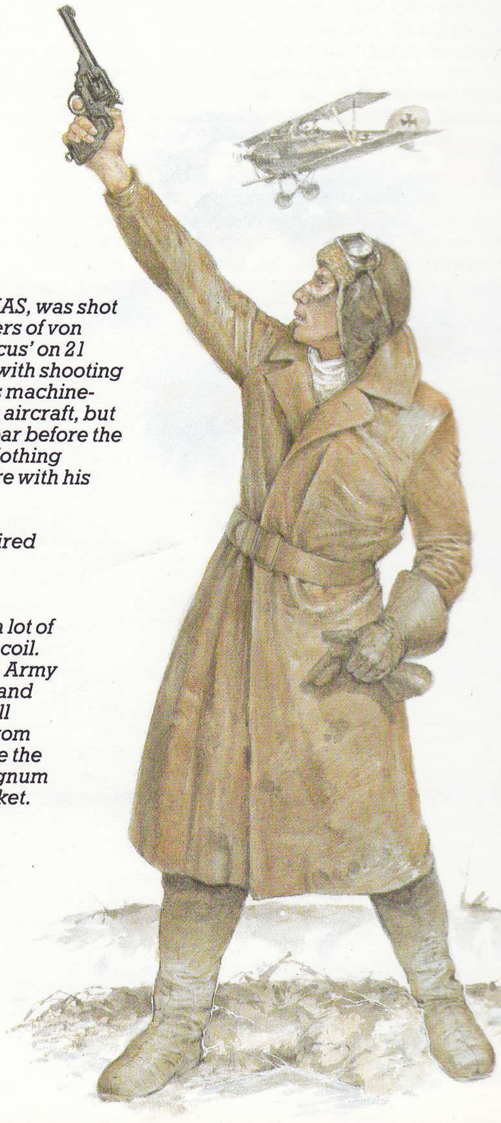
Calibre: 11.2 mm (0.441 in)

Weight: 1.09 kg (2.4 lb)

Lengths: overall 286 mm (11.25 in); barrel 152 mm (6 in)

Muzzle velocity: 189 m (620 ft) per second

Cylinder capacity: 6 rounds

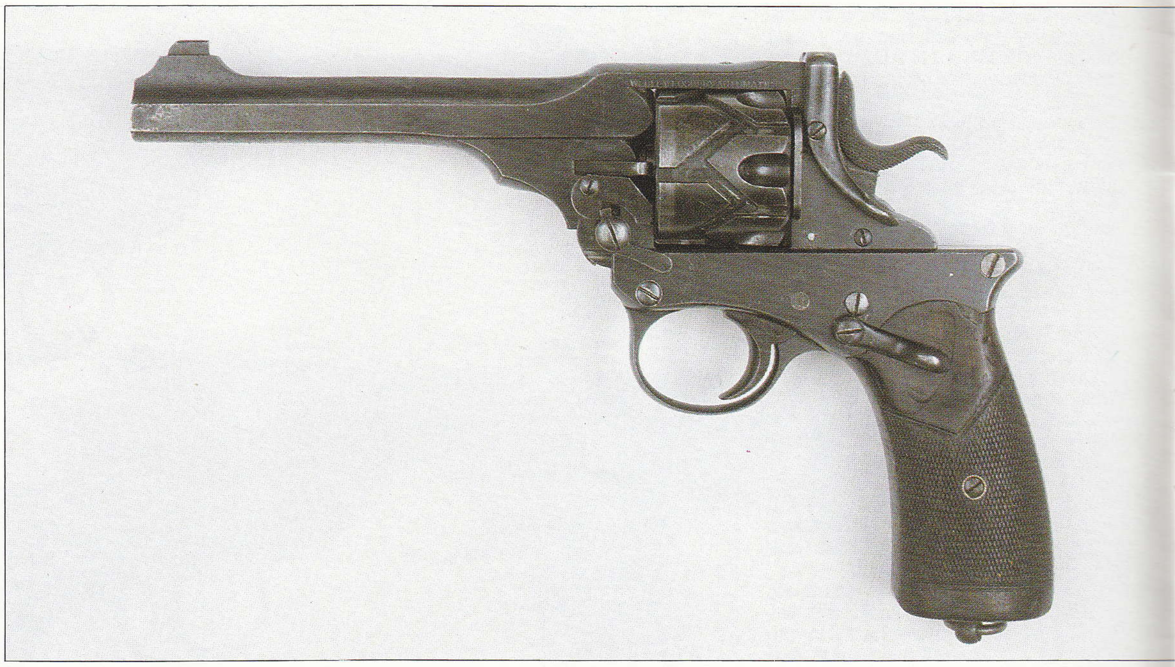


Right: Captain Little, RNAS, was shot down by Albatros fighters of von Richthofen's 'Flying Circus' on 21 April 1918. Not content with shooting him down, the Germans machine-gunned the wreck of his aircraft, but Little had been flung clear before the Camel hit the ground. Nothing daunted, he returned fire with his Webley.

Left: Webley revolvers fired some powerful rounds, including the infamous hollow-pointed 'man-stopper', but it needed a lot of training to master the recoil. After the war, the British Army reverted to 0.38 calibre and since 1918 the trend in all armies has been away from large cartridges, despite the recent popularity of magnum loads in the civilian market.

UK

Webley Fosbery revolver



The unique Webley Fosbery is an automatic revolver. The barrel and cylinder go back over the frame, cocking the hammer and returning by spring power; the stud on the frame engaged in the prominent grooves in the cylinder rotates it, so completing the action.

The **Webley Fosbery** revolver was designed by Colonel G.V. Fosbery VC, and is in a class of its own as it is an automatic revolver. The original patent was taken out in 1896 and production was taken up by Webley & Scott shortly after that, the resultant pistols being chambered for the standard 0.455-in (actually 0.441-in/11.2-mm) cartridge.

The action of the Webley Fosbery was unique. On firing the recoil drove back the barrel, cylinder and top frame along a slide over the butt. This cocked the hammer and a return spring inside the butt then drove the whole assembly back to its initial position. As it did so a stud in the slide ran through an angled groove machined into the cylinder to turn it to the next cartridge position. The system had its attractions to those who thought that they had only to keep pulling the trigger to keep firing rapidly. In practice it was not that simple. One immediate drawback was that the action required a great deal of handling: the entire top frame moving back and forth added to the already considerable movement caused by the heavy recoil, and so made the pistol something of a brute to fire. Another drawback was that the firer had to hold the butt very firmly indeed or the entire system would not function, for the user's grip acted as the anchor for the entire mechanism.

Nevertheless the Webley Fosbery was sold in considerable numbers to British officers who had to supply their own side-arms. Many were sold to Royal Flying Corps personnel who thought that the automatic feature would be of considerable advantage when engaging enemy aircraft from the confines of their cockpits: they soon learned that the considerable firing movements made in-flight shooting even more difficult than it might otherwise have been.

For all this the Webley Fosbery was never adopted officially, which was just as well for when used in the trenches the type's major drawback became all too obvious. This was that the action relied upon smooth movement through carefully-machined grooves, any clogging of those grooves by dirt or mud resulted in a jam. As most of the grooves involved were fully exposed they soon became full of all manner of trench debris and it took constant attention to keep them clean. Many officers gave up the task and took up other less troublesome pistols.

Specification

Webley Fosbery

Calibre: 11.2 mm (0.441 in)

Weight: 1.25 kg (2.755 lb)

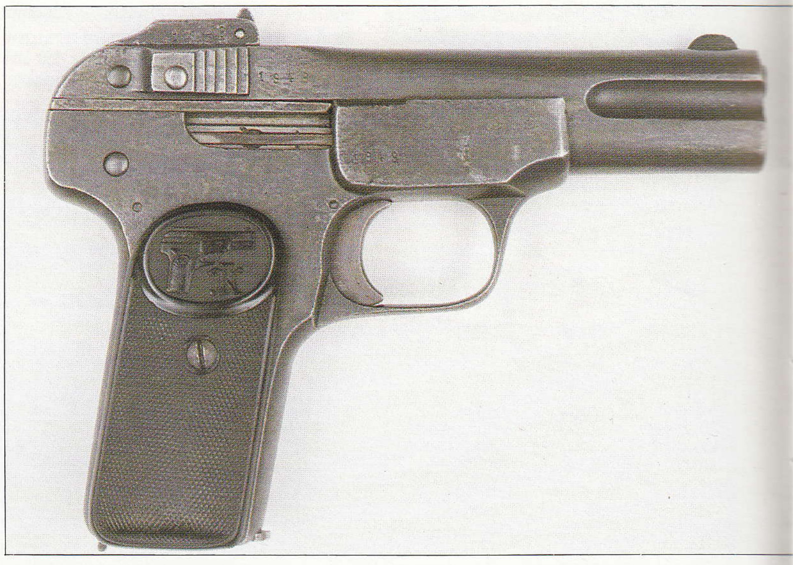
Lengths: overall 279 mm (11 in); barrel 152 mm (6 in)

Muzzle velocity: 183 m (600 ft) per second

Cylinder capacity: 6 rounds

BELGIUM

Browning pistols



The Modèle 1900 has the distinction of being the first Browning design to be made by FN of Herstal, the beginning of a long and successful association.

The Belgian Fabrique Nationale d'Armes de Guerre (FN) was formed in association with John M. Browning after the latter left Colt, and the association produced many excellent weapon designs. The first pistol produced by the Browning/FN combination was the **Browning Modèle 1900**, a fairly straightforward pistol with few frills and chambered in 7.65 mm (0.301 in). The Modèle 1900 was a pistol that was never officially adopted as a standard service pistol, but it was produced and used in thousands, usually by officers who had to supply their own side-arms. It was also copied in even larger numbers in China and Spain, usually unofficially.

The **Modèle 1903** was the Belgian version of a Browning-designed Colt pistol produced to use an European cartridge known as the 9-mm (0.354-in) Browning Long. The Modèle 1903 employed a straightforward blowback mechanism that could be used because of the relatively low power of the cartridge. The Modèle 1903 was adopted by the Belgian army and was also licence-produced in Sweden. Other user nations were Turkey, Serbia, Denmark and the Netherlands. Some versions could use a shoulder stock that doubled as a holster.

Perhaps the most important of the World War I Browning pistols was the attractive **Modèle 1910**. It was placed on the market in 1912 and was immediately recognized as an ideal officer's side-arm. It was also accorded the accolade of being copied widely, often without any form of licence agreement. Produced to fire either the 7.65-mm or 9-mm Short (0.354-in, also known as the .380 ACP) cartridge, the Modèle 1910 is still in limited production. The mechanism of the Modèle 1910 is conventional blow-back with the return spring coiled around the barrel. The pistol is still a delight to handle and is easy to aim and fire, having a grip safety. The Modèle 1910 is another pistol that has never been officially adopted as a service weapon, other than by the Belgian army, but it was used in large numbers throughout World War I by many officers who had to purchase their own side-arms. Many Modèle 1910s were still around during World War II. After World War I a slightly enlarged version, the Modèle 1922, was produced but it never replaced the Modèle 1910.

Specification

Modèle 1900

Calibre: 7.65 mm (0.301 in)

Weight: 0.625 kg (1.378 lb)

Lengths: overall 162.5 mm (6.4 in); barrel 102 mm (4.02 in)

Muzzle velocity: 290 m (951 ft) per second

Magazine capacity: 7 rounds

Specification

Modèle 1903

Calibre: 9 mm (0.354 in)

Weight: 0.91 kg (2 lb)

Lengths: overall 203 mm (8 in); barrel 127 mm (5 in)

Muzzle velocity: 320 m (1,050 ft) per second

Magazine capacity: 7 rounds

Specification

Modèle 1910

Calibre: 7.65 or 9 mm (0.301 or 0.354 in)

Weight: 0.57 kg (1.26 lb)

Lengths: overall 154 mm (6.06 in); barrel 88.5 mm (3.48 in)

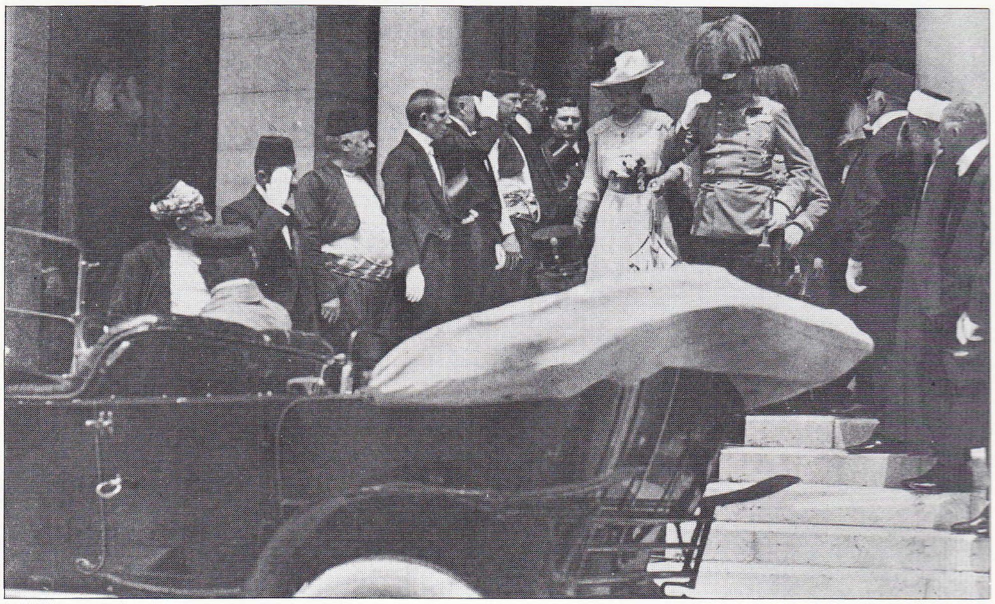
Muzzle velocity: 299 m (981 ft) per second

Magazine capacity: 7 rounds

The shot that shook the world

The assassination of a major political figure often has important repercussions, but the shooting of the heir to the Austro-Hungarian Empire in 1914 led to the Great War. The Austro-Hungarians retaliated by invading Serbia, and the network of alliances dragged the world into conflict. Four empires were to be destroyed, and the world today is still living with the consequences.

Below: The Archduke and his wife walk down to their car, being greeted by assembled Bosnian dignatories. Visiting Bosnia on St Vitus' day enraged Nationalist feeling and has been compared to a member of the British Royal family visiting the most Republican areas of Belfast on St Patrick's Day.



The young conspirators met again shortly after dawn on Sunday, 28 June 1914, the warm sunshine already dispelling the morning mist and promising a radiant summer day. The seven, all young students imbued with that spirit of political idealism which tells them that they must do something, indeed anything, to change society without pausing to consider what to change it into, were members of the 'Young Bosnians' group: Mohamed Mehmedbašić, Vaso Čubrilović, Nedeljko Čabrinović, Cvijetko Popović, Gavrilo Princip, Trifko Grabež were the soldiers of the team, the 'hit men', and Danilo Ilić was the organizer.

They had already been issued with their weapons: pistols and bombs supplied to them by Major Tankosic, one of the leaders of the notorious 'Black Hand' organization under the shadowy command of Colonel Dimitrijevic-Apis, and smuggled across the border from Belgrade; they knew their tasks. Now they took up their stations.

Five of them took position along the bank of the River Miljačka, now in the early summer a mere stream at the bottom of a wide bed. Mehmedbašić, Čabrinović and Čubrilović stood at the junction of the Appel Quay and the Čumuria Bridge, while opposite and facing them was Popović, at first accompanied by Ilić; it was here, they thought, that their tasks would most likely be carried out. Farther along the river bank, at its junction with the Latin Bridge, stood Princip, and farther along the bank towards the Town Hall waited Grabež, the 'last hope' if fortune failed his friends.

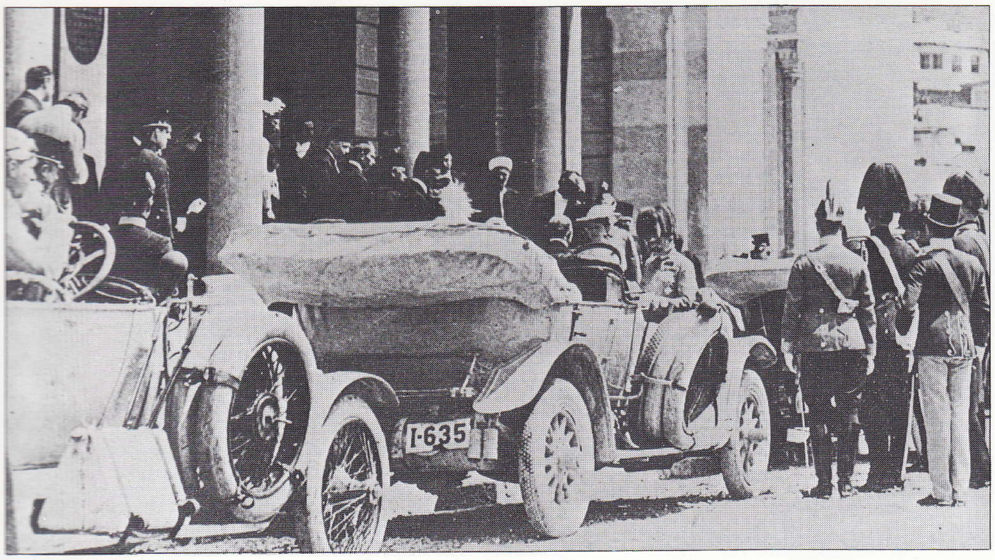
They were all in position by 09.00, and had nearly an hour to await their proposed victim's arrival.

The Archduke Franz Ferdinand, heir apparent to the Habsburg empire of Austria-Hungary, had during his life been given so many general warnings of the possibility of assassination that by the age of 51 he listened to even the most specific with an air of tired fatalism.

'I am sure your warning is justified,' he sighed when it was suggested to him that he might meet his end at Sarajevo, 'but I do not let myself be kept under a glass cover. Our life is constantly in danger. One has to rely upon God.' He thus instructed that the programme for his visit to the Bosnian capital should not be curtailed.

As Inspector-General of the Armed Forces of the Empire he was attending the great summer manoeuvres taking place across the provinces of Bosnia and Herzegovina, and his proposed visit to Sarajevo had been announced as early as the previous March. It

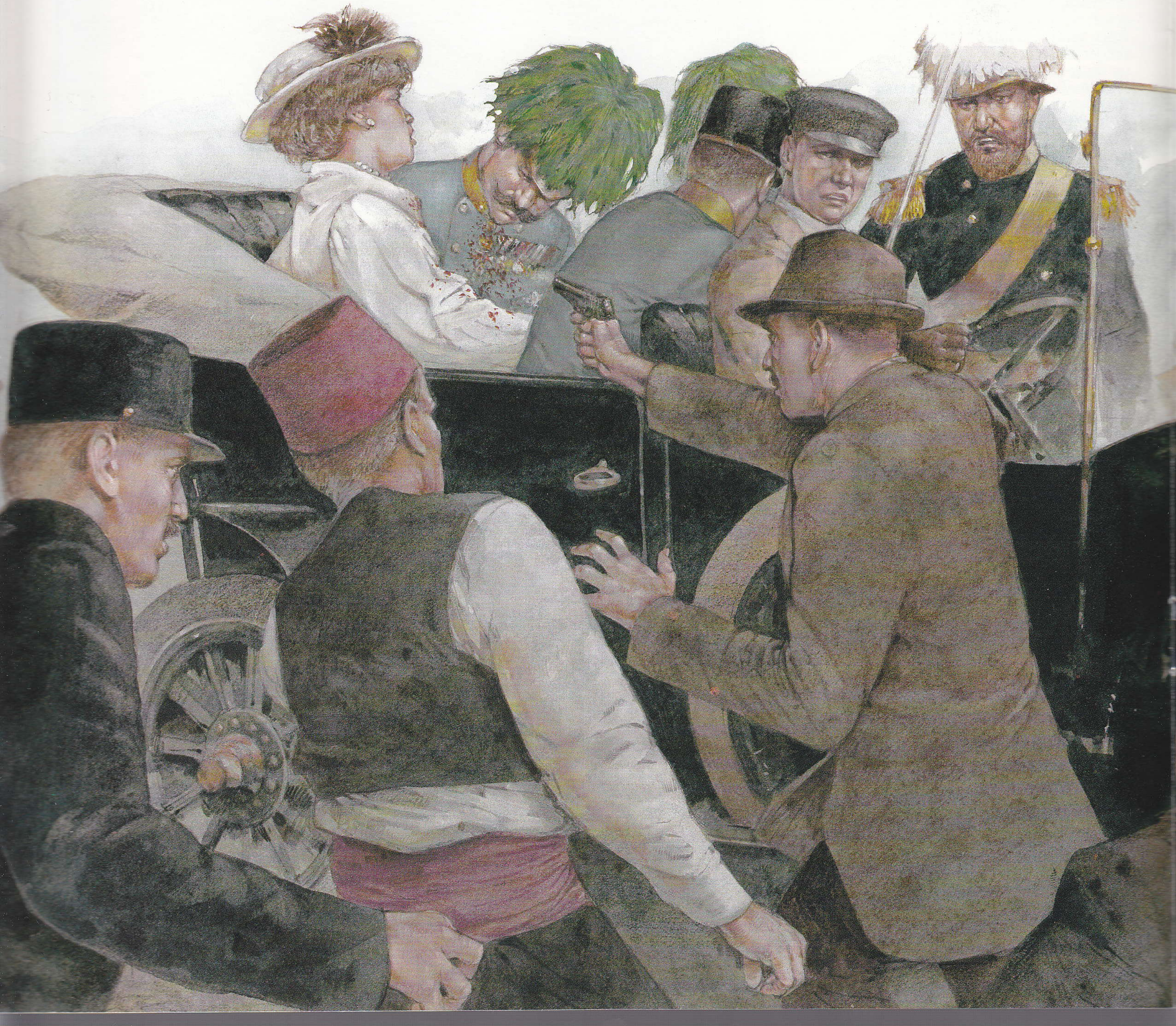
Franz Josef, the ageing King and Emperor, takes the salute. Despite his many years he was a powerful political force, and did much to maintain the stablity of his disparate country; Franz Ferdinand was a much more divisive figure, and his accession was awaited with anxiety by many political leaders.



The Royal party at the town hall after the first bomb attack. The Archduke remarked, 'We shall get a few more bullets still' before setting off again. Events were to prove him tragically correct.

would not now be altered because of yet more rumours of yet another attempted assassination, which would yet again doubtless prove to be unfounded. In this opinion it would seem that the Sarajevo police forces were in agreement, as the security measures they were taking were exiguous in the extreme. They seem also totally to have ignored the fact that the visit was taking place on the day of the greatest Serbian festival, St Vitus' Day, a fact which Serbian patriots, ever a fervent body, would almost certainly regard as a gratuitous aggravation of an unnecessary annoyance.

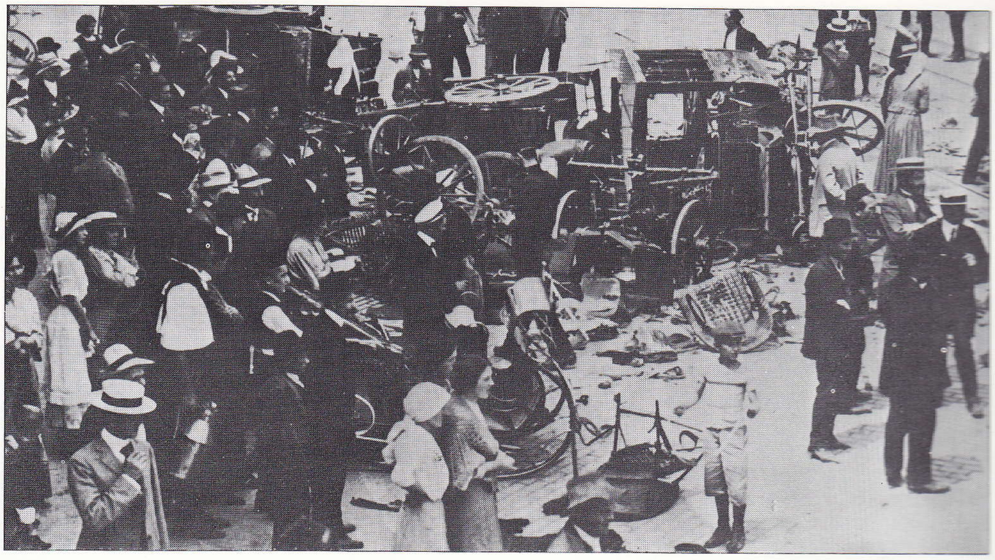
The archducal train arrived at Sarajevo station promptly on time at 10.00, and 10 minutes later the procession of four cars was on its way to the official reception at the town hall. In the leading car were the mayor and the chief of



police; in the second were the archduke in full uniform with his beloved wife, the Duchess Sophie of Hohenberg, beside him, sitting opposite the governor of Bosnia, General Potiorek, while in the front seat next to the chauffeur was the owner of the car, Count Harrach. In the rear two cars travelled the officers and attendants of the archducal suite.

The cars drove swiftly along the Appel Quay between the houses on their left and low embankment wall on their right, and as they approached the Čumuria Bridge General Potiorek turned and pointed out to his markedly uninterested guests the new barracks they were approaching.

At the same moment, a tall young man in a long black coat and a black hat was asking a nearby policeman in which car the archduke

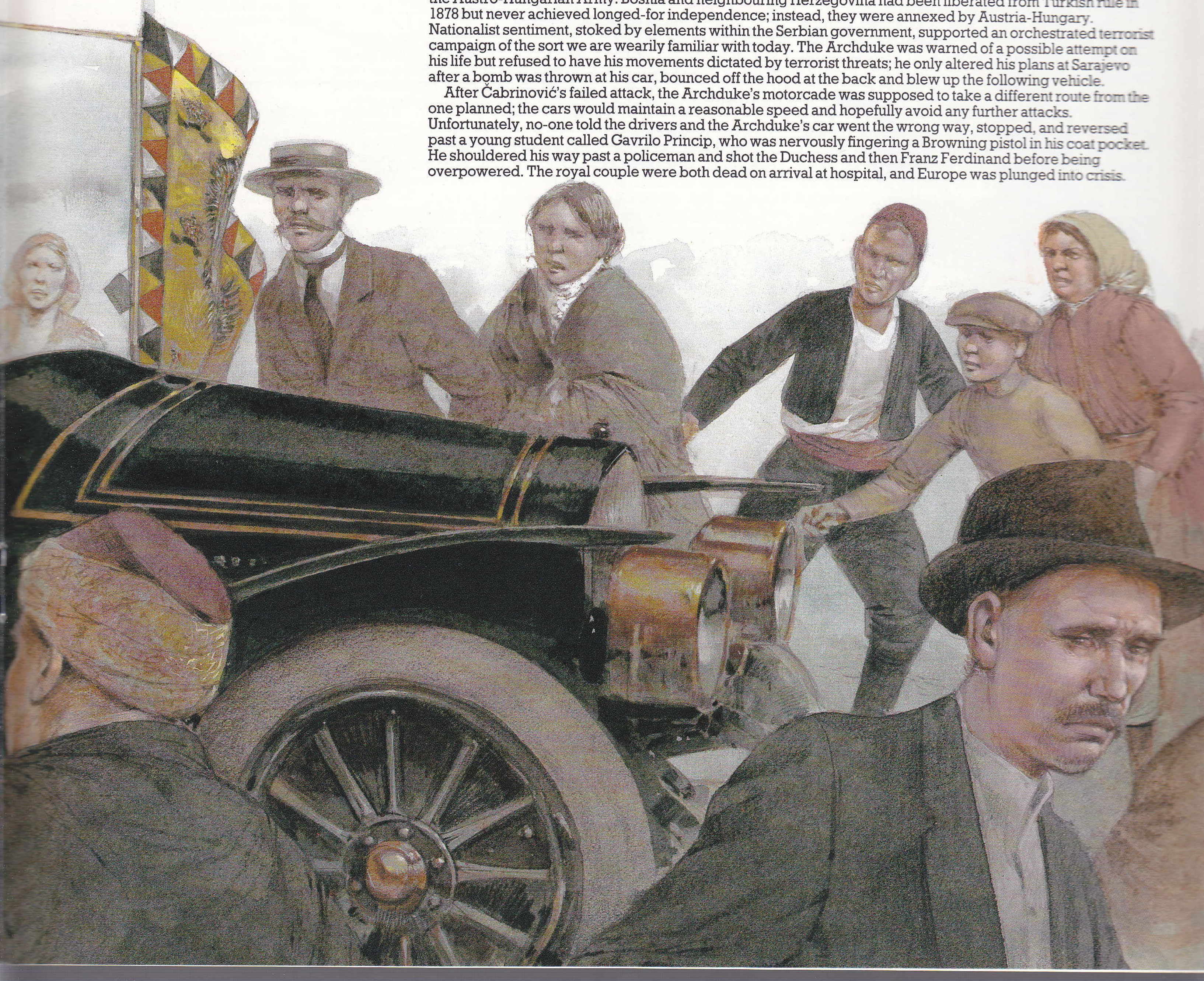


Then, as now, terrorist bomb outrages attracted ghoulish spectators. The series of guerrilla activities perpetrated by The Black Hand was the first terrorist campaign on modern lines.

Death at Sarajevo

Archduke Franz Ferdinand visited the Bosnian town of Sarajevo while attending the summer manoeuvres of the Austro-Hungarian Army. Bosnia and neighbouring Herzegovina had been liberated from Turkish rule in 1878 but never achieved longed-for independence; instead, they were annexed by Austria-Hungary. Nationalist sentiment, stoked by elements within the Serbian government, supported an orchestrated terrorist campaign of the sort we are wearily familiar with today. The Archduke was warned of a possible attempt on his life but refused to have his movements dictated by terrorist threats; he only altered his plans at Sarajevo after a bomb was thrown at his car, bounced off the hood at the back and blew up the following vehicle.

After Čabrinović's failed attack, the Archduke's motorcade was supposed to take a different route from the one planned; the cars would maintain a reasonable speed and hopefully avoid any further attacks. Unfortunately, no-one told the drivers and the Archduke's car went the wrong way, stopped, and reversed past a young student called Gavrilo Princip, who was nervously fingering a Browning pistol in his coat pocket. He shouldered his way past a policeman and shot the Duchess and then Franz Ferdinand before being overpowered. The royal couple were both dead on arrival at hospital, and Europe was plunged into crisis.



was travelling, and upon receiving an answer, he knocked off the cap of a hand-grenade against a lamp post and threw it with admirable accuracy but abysmal luck at his objective, leapt over the embankment wall and fled along the river-bank.

As the bomb flew through the air the archduke's chauffeur saw it and accelerated, so that the bomb landed not in the car but on the folded roof at the back. The archduke also saw it and flung up an arm to protect his wife, and as the car shot forward the bomb dropped on to the road and exploded with sufficent force to wreck the vehicle immediately behind that of the Archduke, and wound some 20 onlookers, some of them seriously, including Colonel Merizzi, Potiorek's aide-de-camp.

Change of plan

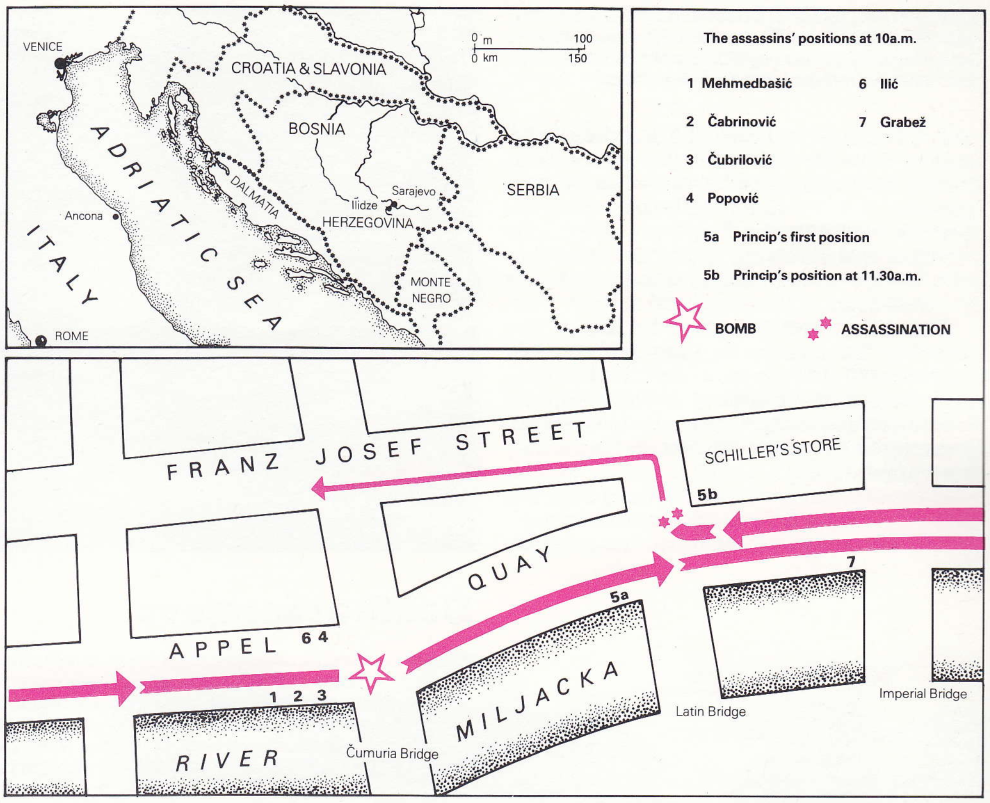
With a courage and sympathy which compels admiration, the archduke commanded his car to stop while enquiries were made as to the extent of the damage and casualties, after which the cortege, reduced to three cars, continued to the town hall and the reception. This was somewhat curtailed by the event and the effect they had had on the archduke's composure, increased by the discovery that a piece of the bomb had grazed his wife's neck.

'I came here on a visit and I get bombs thrown at me. It is outrageous!' the archduke said acidly, later commenting to Count Harrach 'Today we shall get a few more bullets still.'

It was in order to avoid this contingency that General Potiorek now suggested that the day's programme be moderated. Instead of visiting the town museum as planned, which would entail returning along the Appel Quay as far as Latin Bridge, then turning right by Schiller's Store and along Franz Josef Street, he suggested that the museum be abandoned and that the party either proceed direct to the governor's residence at Konak, or return instead to Ilidze, both alternatives requiring nothing but a drive at full speed along the Appel Quay. To this the archduke agreed with the proviso that at some point on the journey a small diversion could be arranged to allow him to call at the hospital where Colonel Merizzi was being treated for his wounds, in order for both archduke and duchess to express their sympathy and condolences.

So it was agreed, and it was a great pity that no one thought to inform the chauffeurs of the change in plans.

From his station at the end of the Latin Bridge, Princip had heard Čabrinović's bomb explode, realized soon afterwards that their prime target had escaped unhurt, and seen Čabrinović attempt to escape along the river bed pursued by police who soon caught him. Princip dallied briefly with the idea of pursuing them, shooting Čabrinović in order to ensure his silence and then turning the pistol upon himself. Princip soon abandoned the notion, mixing with the crowd instead and eventually taking post on the opposite side of the Appel Quay, on the corner by Schiller's Store. Here, he and the crowd believed, the cortege would eventully slow in order to turn into Franz Josef Street.



At Sarajevo one man with a Browning automatic changed the shape of world history; but if the drivers had been told of the change of route, the Archduke's car would never have slowed down in front of the assassin.

In the event, it did (from Princip's point of view) even better.

The three cars duly approached the crossroads and the chauffeurs, still ignorant of the modifications of programme, swung around the corner. But as the first car turned, Potiorek realized the error and shouted to correct it. The first car sped on but the archduke's slowed in the turn, stopped, and the chauffeur began backing so as to clear again for the passage along Appel Quay. Quite slowly, the car and its occupants reversed past Princip at a distance of some 1.5 m (5 ft).

His arm was grabbed by a policeman who saw the young man produce a pistol but the policeman was then knocked down (probably by another of the conspirators or one of their sympathizers) and Princip then fired twice. The first bullet penetrated the side of the car, the duchess's corset and then her right side, while the second went through the archduke's coat collar, severed his jugular vein and lodged in his spine. Both were dead by the time they arrived at the hospital.

It was 11.30 on the morning of 28 June 1914; and the effects of those two shots are still with us.

The funeral of Franz Ferdinand took place on 2 July 1914. Austria-Hungary deliberately made demands on Serbia that could not be met in order to go to war. The network of alliances drew the Great Powers into the conflict one by one and across Europe party differences were put aside for the sake of national unity.

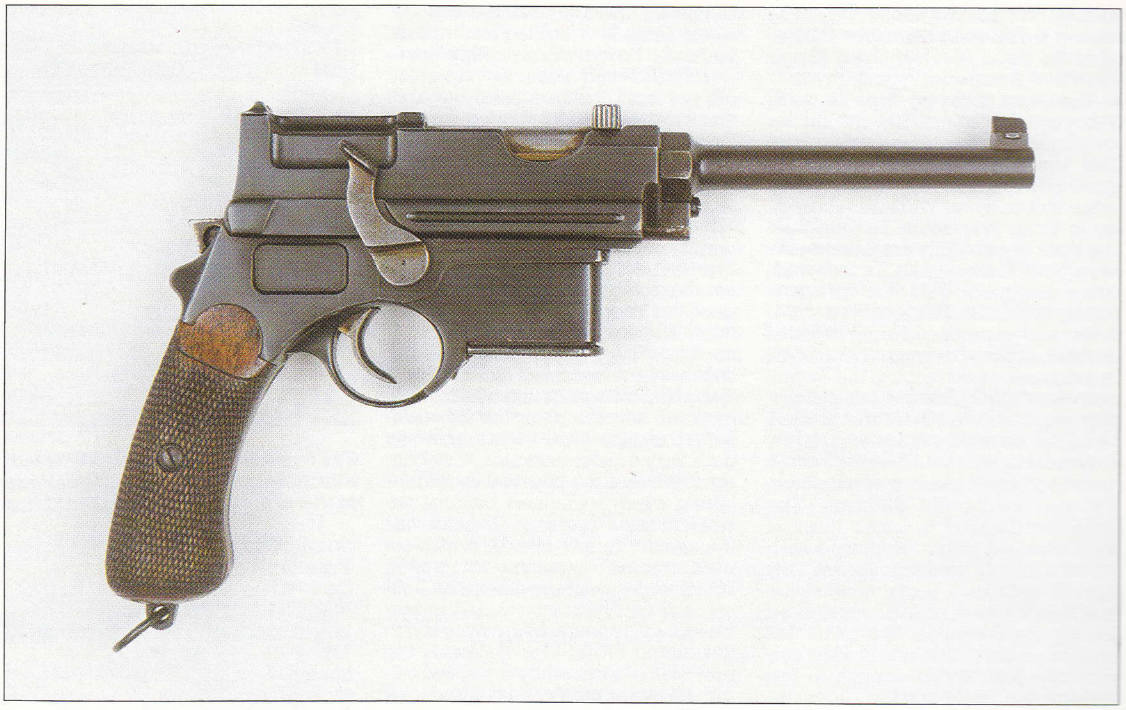
Austro-Hungarian pistols

The basic pistol of the Austro-Hungarian armies was the **8-mm Rast und Gasser Revolver M.1898**. This was a very robust and well made revolver, and was issued in large numbers to officers and NCOs of the imperial armies. But it was unusual on two counts: one was that it fired its own special 8-mm (0.315-in) cartridge, and the other was the unusual method of stripping. This was carried out by pulling down the trigger guard. In this way the entire interior workings were exposed for cleaning and repair, not that repairs had to be carried out very often for the M.1898 was extraordinarily tough. In fact the standard of production was so high that many were still in use during World War II.

Despite the widespread issue of the M.1898 revolver in 1907, the Austro-Hungarian army decided also to adopt an automatic pistol. This was the **8-mm Repetierpistole M.07** (also known as the **Roth-Steyr**), a pistol that used a unique mechanism that no one has seen fit to copy. The M.07 used a long bolt that initially moved backwards with the barrel on firing and continued to travel to the rear once the barrel was held by stops. A complicated process of ejection and feeding the next round then commenced, ceasing only when the bolt and the barrel were back in their initial position. The process involved a straight travel and at one point rotary movement. Despite all this complexity the M.07 was a sound service pistol but it was never produced for anything other than Austro-Hungarian military service. It too had a cartridge all of its own that was not adopted elsewhere.

The M.07 was difficult to produce and in 1912 the **9-mm Repetierpistole M.12** was introduced. Widely known as the **Steyr-Hahn**, the M.12 used what was probably the strongest pistol action ever made, with a locked-breech mechanism operated by a rotating barrel. The 9-mm (0.354-in) cartridge was again special to the weapon and was used by no other, and another distinction was that the magazine was fixed and had to be reloaded through the top using a charger clip.

The M.12 was officially the standard Austro-Hungarian side-arm of World War I and many were still around during World War II, by then in German hands. However, the official status did not prevent the earlier M.1898 and M.07 remaining in widespread use.



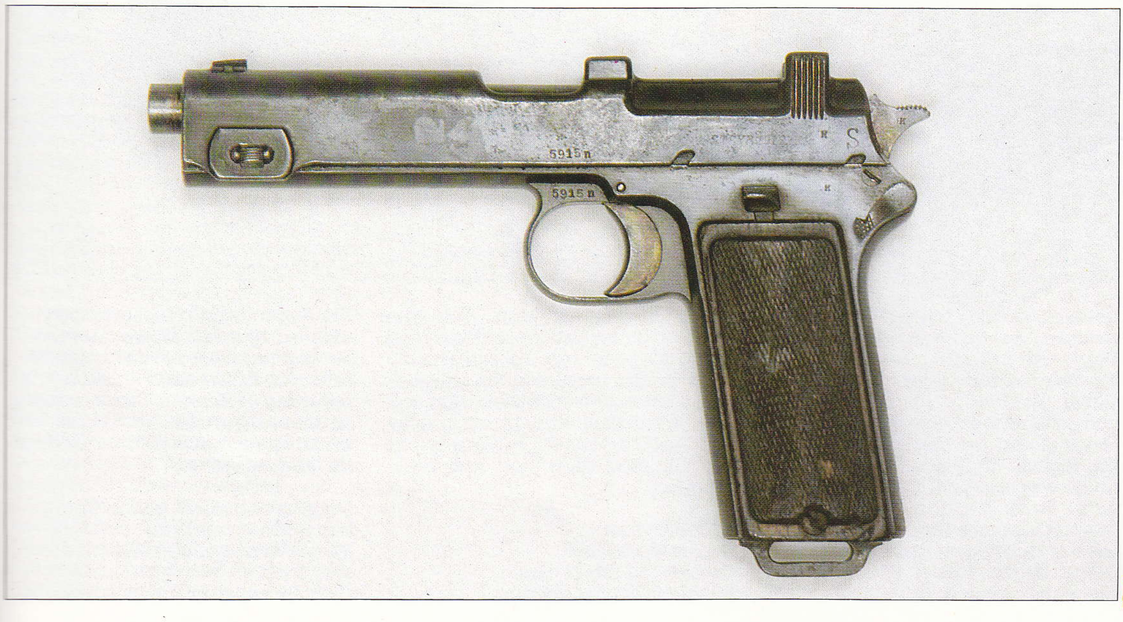
Superficially similar to the Mauser C/96, the Mannlicher M1903 was a rival weapon produced with the military market in mind, but was rejected as a service pistol as it was not sufficiently reliable.

Specification

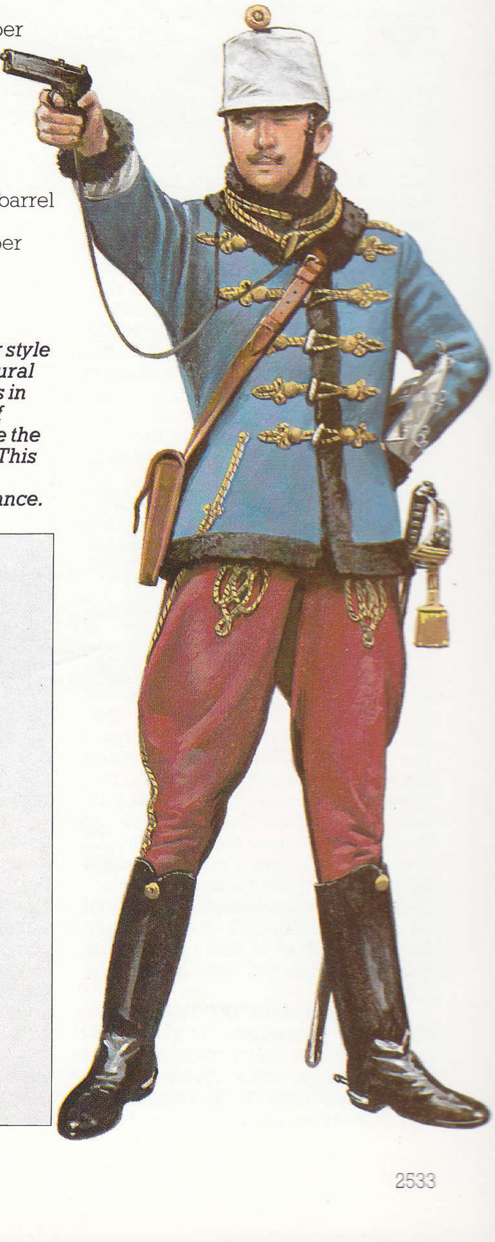
M.07
Calibre: 8 mm (0.315 in)
Weight: 1.03 kg (2.27 lb)
Lengths: overall 233 mm (9.17 in); barrel 131 mm (5.16 in)
Muzzle velocity: 332 m (1,089 ft) per second
Magazine capacity: 10 rounds

Specification

M.12
Calibre: 9 mm (0.354 in)
Weight: 1.02 kg (2.25 lb)
Lengths: overall 216 mm (8.5 in); barrel 128 mm (5.1 in)
Muzzle velocity: 340 m (1,115 ft) per second
Magazine capacity: 8 rounds



The Steyr M1912 was a first-class gun but was adopted only by the Austro-Hungarian army, perhaps because it fired a unique 9-mm cartridge that was more powerful than the increasingly popular 9-mm Parabellum. It was called 'Steyr-Hahn' ('Steyr-Hammer') to distinguish it from the Roth-Steyr.



Right: Having begun the Hussar style in the first place, it was only natural that Hungarian hussar uniforms in 1914 retained all the panache of traditional light cavalry, despite the addition of modern weaponry. This officer holds a Steyr-Hahn M12 automatic in classic duelling stance.

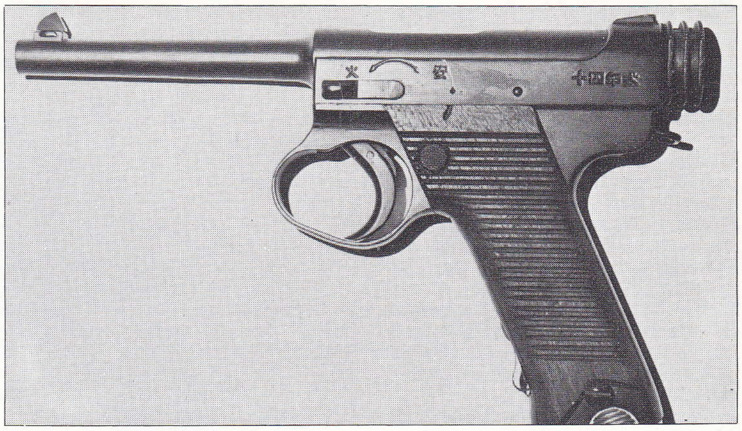
JAPAN

Japanese pistols

During World War I the Japanese armed forces used two types of sidearm: the **Pistol revolver Type 26** and the **Pistol Automatic Type 4**.

The 9-mm (0.354-in) Type 26 revolver was adopted in 1893, initially for cavalry use. It was a Japanese design that was typical of its era for it was produced at a time when the Japanese were still studying Western technology to bring their nation forward from the state of generally medieval backwardness. Unfortunately for the small-arms designers they did not know which particular Western designs to follow and so produced an amalgam of several different designs. The overall appearance owed much to the Nagant revolvers, the cylinder swing-out system was borrowed from the Smith & Wessons, the ability to swing open the lock mechanism came from the French Lebel and the action was derived from several European designs. The Japanese decided to add a touch of their own and made the pistol a double-action only weapon. To this they added their own 9-mm ammunition that was not then, or ever since, used by any other weapon. The result was an odd revolver that was at least serviceable and strong enough to last through two world wars.

The Type 4 automatic pistol was designed by one Kijiro Nambu and was never officially accepted for Imperial service. However, so many were purchased and used by Japanese officers from the late 1900s onwards that the design was provided with the Type 4 designation. To the West it became known as the **Nambu** and was so widely used that all subsequent Japanese pistols were called Nambus. The Type 4 fired an 8-mm (0.315-in) cartridge, and used an action not unlike that of the Italian Glisenti but mechanically stronger. This action gave the Type 4 a distinctive appearance. There were several variations of the basic Type 4, the most drastic of which was a special 7-mm (0.276-in) **'Baby Nambu'** version intended for use by staff officers. Despite its widespread use the Type 4 was apparently not a very satisfactory pistol. One constant source of troubles was the striker spring which sometimes became too weak to fire a cartridge. Another was the generally low standard of steel used for some components which often broke under anything other than light use. But the Type 4 remained in service for many years. Many were still in use during World War II despite the provision of a generally-improved design known as the Type 14 (introduced in 1937).



The 8-mm Nambu automatic was purchased by many Japanese officers although it was never adopted as a service pistol. It had a breech-lock similar to that of the Glisenti but suffered from a weak striker spring.

Specification
Type 26
Calibre: 9 mm (0.354 in)
Weight: 0.9 kg (1.98 lb)
Lengths: overall 239 mm (9.4 in); barrel 119 mm (4.7 in)
Muzzle velocity: 277 m (909 ft) per second
Ammunition capacity: 6 rounds

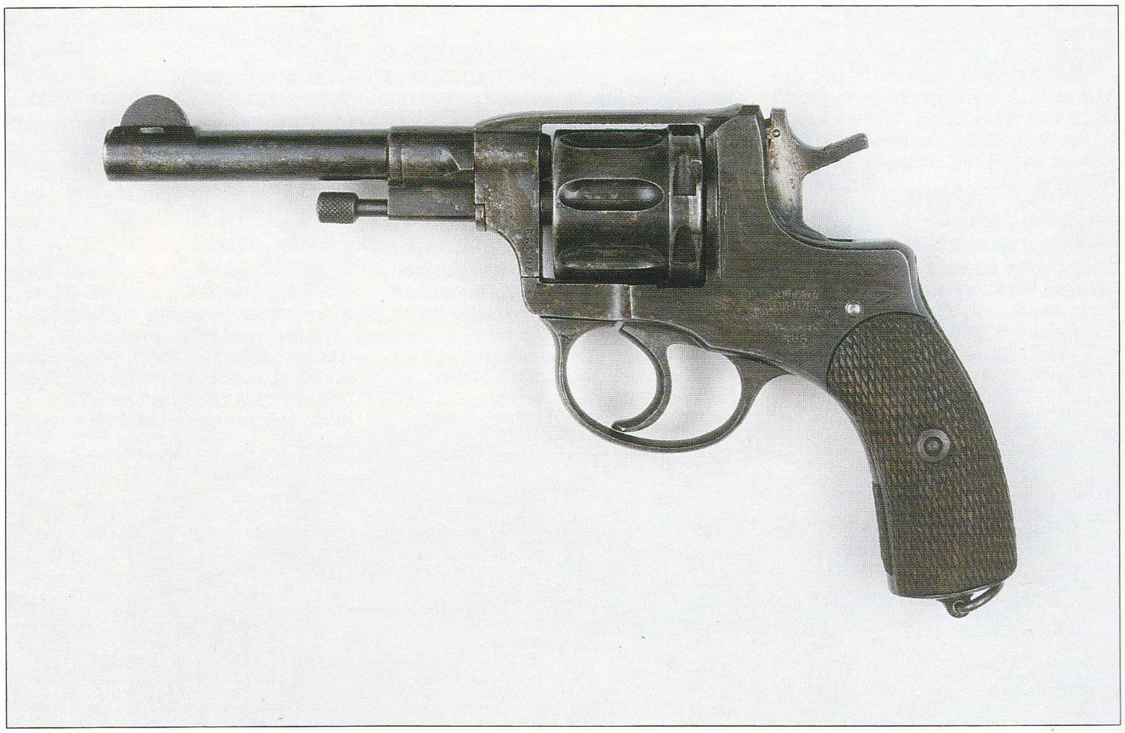
Specification
Type 4
Calibre: 8 mm (0.315 in)
Weight: 0.9 kg (1.98 lb)
Lengths: overall 229 mm (9 in); barrel 120 mm (4.7 in)
Muzzle velocity: 325 m (1,066 ft) per second
Ammunition capacity: 8 rounds

RUSSIA

Nagant Model 1895

The **Nagant Model 1895** revolver was originally a Belgian design produced as early as 1878. From then onwards the basic design was procured by Belgium, Argentina, Brazil, Denmark, Norway, Portugal, Rumania, Serbia and Sweden, usually from Belgium and in various calibres (although copies were produced in Spain). However, the number of Nagant revolvers produced in Russia (initially under licence) dwarfed all output carried out elsewhere, to the extent that the Nagant is now regarded as a Russian weapon.

The first Russian production of the Nagant was carried out at the Tula Arsenal in 1895 and continued until 1940. The version involved was the Nagant Model 1895, a model designed to improve the overall efficiency of the basic revolver concept. It was an unusual revolver in many respects, not the least being the unique 7.62-mm (0.30-in) ammunition that used a brass cartridge case with a fully recessed bullet. The idea of this was that as the pistol was fired the cylinder was rammed forward into close contact against the end of the barrel, with the case forming a complete gas seal between the two assemblies. The idea behind this was supposedly to make the cartridge more efficient by minimizing the loss of propellant gases through the small gap between the cylinder and the barrel, but it was a feature of doubtful value that added a degree of complexity to the requirement for a special cartridge, although the Russians thought much of it and retained the feature unchanged until production ceased.



The Nagant was a Belgian design adopted by many different armies but so many were produced under licence in Russia that the revolver is regarded as Russian. It incorporated an unusual gas-seal mechanism which added needless complication for little real benefit.

For some reason the Tsarist army decided to perpetuate the differences between the ranks by issuing enlisted men with single-action revolvers while officers received double-action versions. There was also a noticeable difference between the finish of the two models, the single-action models often being left as bare metal while the officers' versions were plated or blued. Both were extremely sturdy and reliable weapons: they had to be to last under the conditions in which the Russian army usually fought. The frame was solid and the cylinder was fixed, with loading taking place through a gate on the right. A rod was used to eject spent cases.

The Nagant Model 1895 revolvers were produced in hundreds of thousands over the years. The type was used throughout World Wars I and II, and it is possible to encounter some today in odd corners of the world. A few ammunition manufacturers still find it worth their while to produce the special recessed ammunition, although most sales must now be to collectors.

Specification
Nagant Model 1895
Calibre: 7.62 mm (0.3 in)
Weight: 0.795 kg (1.75 lb)
Lengths: overall 230 mm (9.055 in); barrel 110 mm (4.33 in)
Muzzle velocity: 272 m (892 ft) per second
Cylinder capacity: 6 rounds

GERMANY

9-mm Pistole '08

The **9-mm Pistole '08** remains one of the 'classic' pistols and it is still almost universally known as the **Luger** after its designer, Georg Luger. The basic design was based on that of a previous pistol, the **Borchardt**, but Luger tidied up that design and developed it into the form manufactured by Deutsche Waffen und Munitionsfabriken (DWM) starting in 1898.

The first Luger pistols were sold to Switzerland in 1900, chambered for the 7.65-mm (0.301-in) cartridge. By 1904 the pistol was being re-chambered for the 9-mm (0.354-in) Parabellum cartridge, and this version was accepted for German navy use. In 1908 a slightly revised model was accepted by the German army and thereafter the P '08 was fabricated in hundreds of thousands. These early models were produced in a variety of barrel lengths, the shortest being 103 mm (4.06 in) long. Other barrel lengths were 152 mm (6 in), 203 mm (8 in) and even 305 mm (12 in). These long-barrelled versions were usually issued with combined wooden shoulder stock/holster kits and were known as **Artillery Models**. They were frequently used with a 32-round 'snail' magazine.

All the variations of the P '08 used the same mechanisms with its upward-opening toggle lock mechanism. As the pistol was fired all the hinge elements of the toggle were in line to lock the breech. The recoil forces had to overcome the mechanical advantage of the toggle mechanism before it would open, and once open the ejection and reloading processes could be carried out. A return spring in the butt reset everything ready to fire the next round.

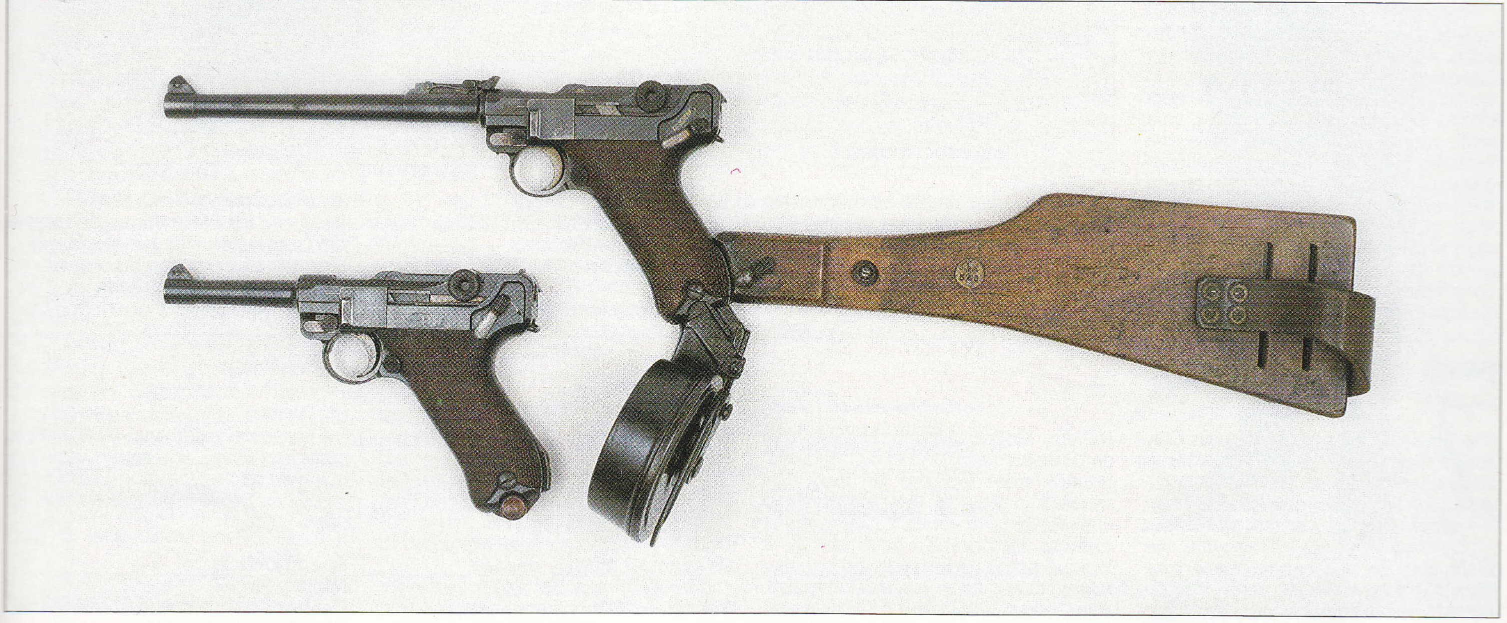
The toggle device gave the P '08 a distinctive appearance, and the rake of the butt made the pistol a good one to aim and fire. The P '08 soon became a prized front-line weapon and war trophy, and throughout World War I there were never enough P '08s being produced to meet the ever-growing demands. It was here that the disadvantages of the P '08 became apparent, for it was a difficult weapon to produce in quantity as virtually all its components had to be hand-made. By 1917 much of the excellent pre-war detail finish had been omitted and the original grip safety was deleted altogether, never to return even after 1918. There was one other drawback to the P '08, and that was the fact that the toggle mechanism was not very tolerant of trench conditions. Mud and dirt could all too easily clog the workings, often at the worst possible times, so the pistols demanded a lot of care.

The soldiers did not seem to mind. They liked the P '08, and after 1918 the model was kept in service. It was still in production in 1943 and even today many manufacturers find it well worth their while to produce 'look-alike' or direct copies for a seemingly unsatiable market.

Specification

P '08
Calibre: 9 mm (0.354 in)
Weight: 0.876 kg (1.93 lb)
Lengths: overall 222 mm (8.76 in); barrel 103 mm (4.06 in)
Muzzle velocity: 320 m (1,050 ft) per second
Magazine capacity: (box) 8 rounds

A standard Luger P '08 is shown beneath an 'Artillery' Model, thought to have been introduced in 1917. The latter had a 192-mm (7.5-in) barrel and a flat board-like stock.

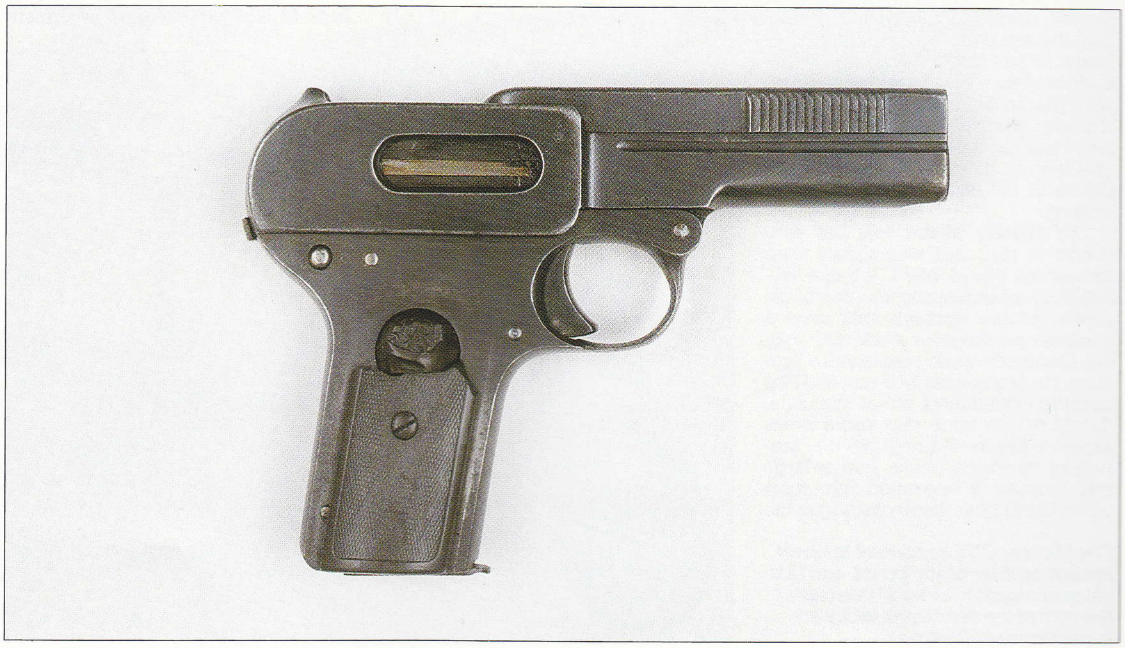


GERMANY

Other German pistols

When trench warfare had set in with a vengeance by the end of 1914, the armies of both sides demanded ever-growing quantities of weapons and war materials. Pistols were no exception to this situation, and as most service pistols then in use had virtually to be hand-made, it was not easy to meet these demands in a hurry. Consequently something else had to be be found to equip the soldiers, and many storerooms were examined.

In some of them large numbers of **Reichs-Commissions-Revolver Modell 1879** were found. In fact some of them were still in reserve use by many units, despite their age. They fired an odd and low-powered 10.6-mm (0.417-in) cartridge, but were sturdy weapons as they had solid frames and a gate-load-



One of the first commercial pistols to be produced in 9-mm Parabellum was the RM & M 'Dreyse', which was manufactured only in limited numbers but saw active service nevertheless. The weapon was closely based on this earlier Dreyse Automatic, chambered for the 7.65-mm cartridge.

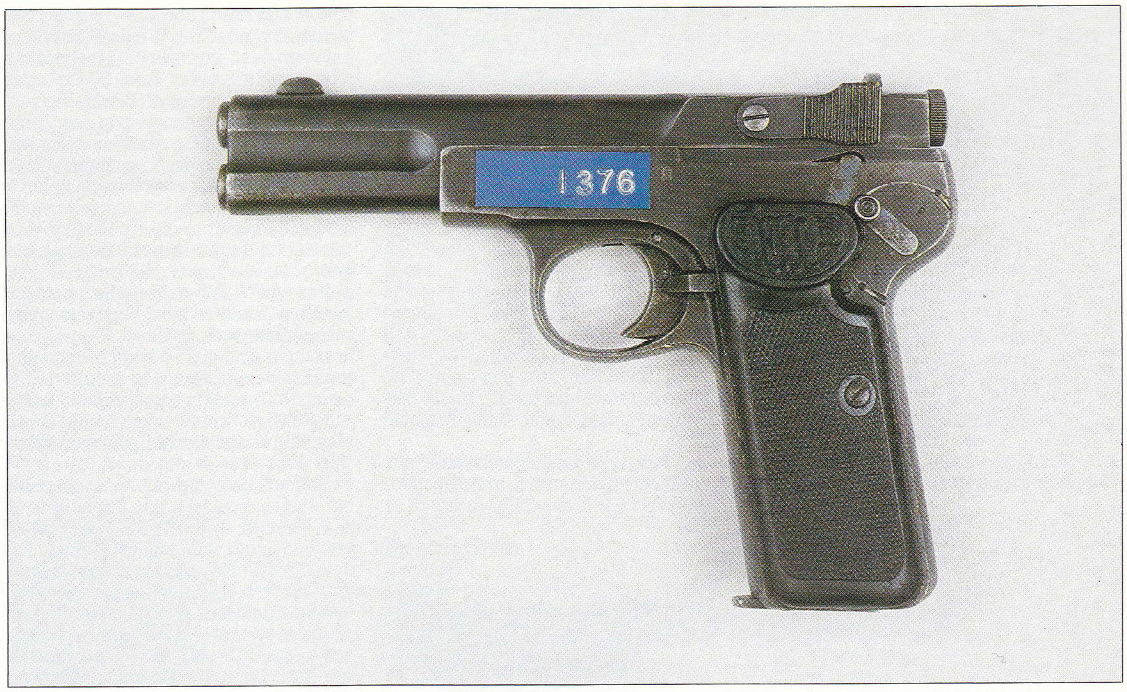
ing system that required a rod to eject spent cartridge cases. These ancient revolvers were still around in 1918 and for many years after as they did not wear out. There was also a **Modell 1883** with a shorter (126-mm/4.96-in) barrel.

Another typical wartime expedient was the 7.65-mm (0.301-in) **Belholla-Selbsladepistole**. This was really a commercial automatic pistol of undistinguished design, but was available in some numbers and was fairly easy to make. Many were issued to staff officers who had to carry a pistol and for whom the Belholla would be quite sufficient, freeing more useful combat pistols for front-line units. Thousands of Belhollas were made and issued, often under an array of sub-contractor names. The design was so simple that little thought was given to maintenance and the pistol could not be stripped without recourse to a trained armourer with a substantial tool kit.

These two pistols were typical of the mix of commercial and ancient side-arms with which a great deal of the German army (and other services) had to conduct their war. Demand constantly outstripped pistol supply, so a wide range of odd pistols were collected into the German army net. Pistols with such names as the **Dreyse** and the **Langenham** were pressed into service in quantities that ensured that their names would not be entirely forgotten, as they would probably otherwise have been, but few of them were designed for front-line service of the kind they often had to encounter, so many were less than satisfactory.

Specification

Modell 1879
Calibre: 10.6 mm (0.417 in)
Weight: 1.04 kg (2.29 lb)
Lengths: overall 310 mm (12.2 in); barrel 183 mm (7.2 in)
Muzzle velocity: 205 m (673 ft) per second
Cylinder capacity: 6 rounds



An automatic 7.65-mm pistol designed for the commercial market, the Langenhan was adopted by the German army during the war as demand for weapons exceeded the production capacity of existing guns.

GERMANY

Mauser C/96

The original design of the **Mauser C/96** range of pistols was produced by three brothers named Feederle, who worked on the basic design until 1896 when it was placed in production by Mauser at Oberndorf-Neckar. Thereafter the C/96 and its derivatives were produced in a bewildering array of models to the extent that it is still a veritable minefield for the unwary historian.

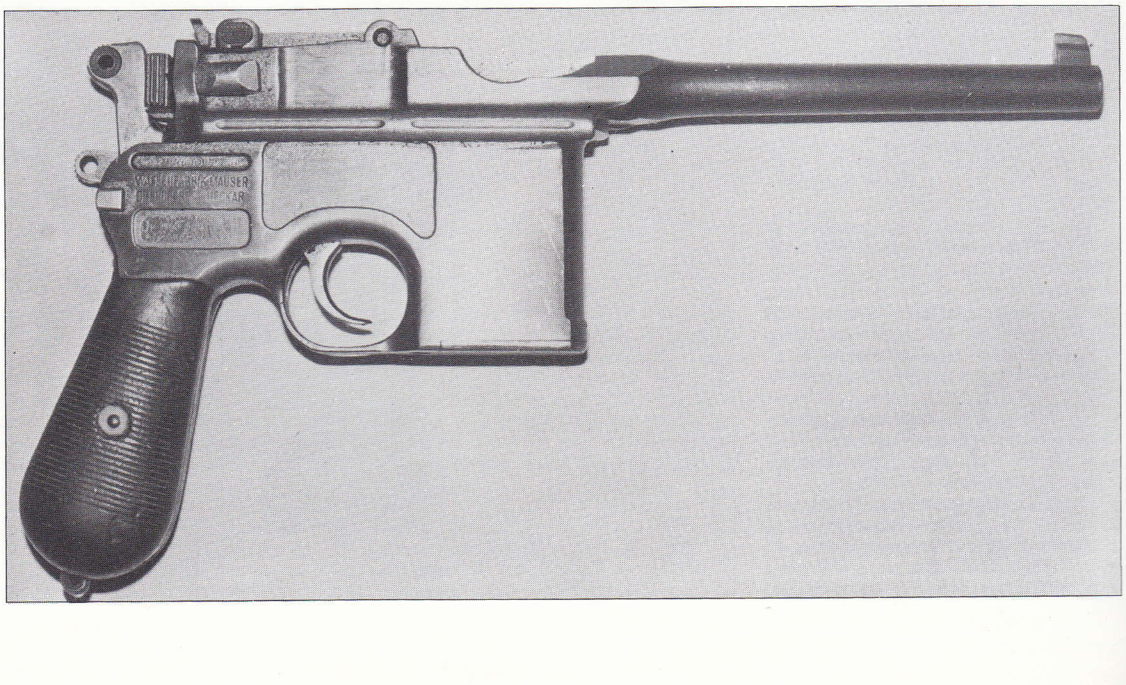
The first C/96 pistols were hand guns, but it was not long before later models began to sprout shoulder stocks and other such appendages. Barrels started to increase in length until the weapons became virtual carbines rather than pistols, and some models of the C/96 became very complex pieces of kit together with their shoulder stock/holsters that also carried cleaning tools, spare clips and so on. Only one model needs to be considered at this stage to explain most models.

The **Military Model** was first produced in 1912 and was widely used throughout World War I. It had a 140-mm (5.51-in) barrel and was one of the pistol/carbine versions that used a combination shoulder stock and holster. Originally these pistols were produced to fit a special 7.63-mm (3.01-in) cartridge but during World War I the demand was such that some were issued to fire the 9-mm (0.354-in) Parabellum cartridge: these had a large red number 9 engraved into their butts. Using both these cartridges the Military Model had a mechanism that can only be described as complicated. Rounds were fed into the magazine situated in front of the trigger using clips fed in from above. At the moment of firing the breech was locked by a locking piece underneath the bolt that moved to and fro in a barrel extension. After firing, a system of tongues and bolt movement delayed the action until the chamber pressure had dropped to a safe level, after which the bolt was allowed to move back to carry out the reloading and recocking operations. The barrel also moved back, but only to a limited extent. A return spring returned everything for the next round. The mechanism depended on careful machining and exact tolerances, two factors that made the C/96 series difficult to manufacture and which led to its eventual military demise.

The C/96 pistols were certainly formiable military weapons with a certain aura about them that survives to this day, for it seems that every pistol collector wants at least one C/96 in his collection. Such collectors have a wide choice, for the pistols were made in large numbers, not only in Germany but in Spain and many other nations, including China where the quantities involved were prodigious. Most of this 'overseas' production was entirely unofficial.

Specification

Military Model
Calibre: 7.63 or 9 mm (3.01 or 0.354 in)
Weight: 1.22 kg (2.69 lb)
Lengths: overall 308 mm (12.125 in); barrel 140 mm (5.51 in)
Muzzle velocity: (7.63 mm) 433 m (1,420 ft) per second
Magazine capacity: 10 rounds



The Mauser C/96 has one of the best known profiles of any pistol, and this elegant weapon, already popular at the turn of the century, is today a favourite for collectors.

Mauser: the story continues

Designed in 1894 with a hammer intended to be cocked against a horseman's saddle, the Mauser C/96 was carried by Winston Churchill during his army days. Subsequently copied in arsenals around the world, a modified version is today marketed by the Chinese as a machine pistol.

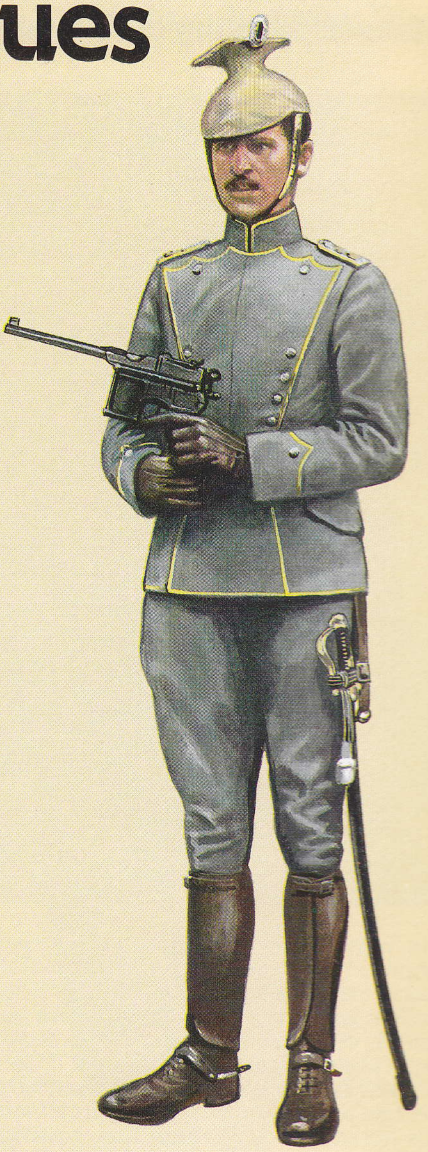
The story of the Mauser C/96 'Broomhandle' pistols may have started back in the 1890s, but it is far from over. The C/96 was the world's first truly automatic self-loading pistol, and over the decades has gained a following that has yet to be lost.

The C/96 was first produced in 1896 and immediately became a much desired weapon. The main attraction was its self-loading feature, but many buyers were drawn to the weapon just by its appearance. Simply carrying the weapon seemed to impart some sense of importance to the carrier, but this was offset by the fact that the C/96 was not easy to maintain. It had a complicated mechanism and took some time to understand. The bystander never saw these 'off-stage' requirements, and thus remained impressed.

Anyone on the receiving end was also impressed. The 7.63-mm (0.301-in) cartridge fired by the C/96 was a high-velocity round that could inflict serious damage at quite long ranges compared with other pistols of the era, and Mauser took advantages of this by supplying some models with leaf rearsights calibrated up to as much as 1000 m (1,094 yards), which was rather optimistic. To take advantage of this long-range feature there emerged the use of wooden holsters that could also double as shoulder stocks for more accurate aiming. Originally these accessories were produced for wealthy commercial customers, but it was not long before they attracted the attentions of the military who then decided to take the idea one stage further and add cleaning tools, spare ammunition clips and other items to the holster. In the end the wooden holster was in turn carried in a leather holster with all the extras enclosed.

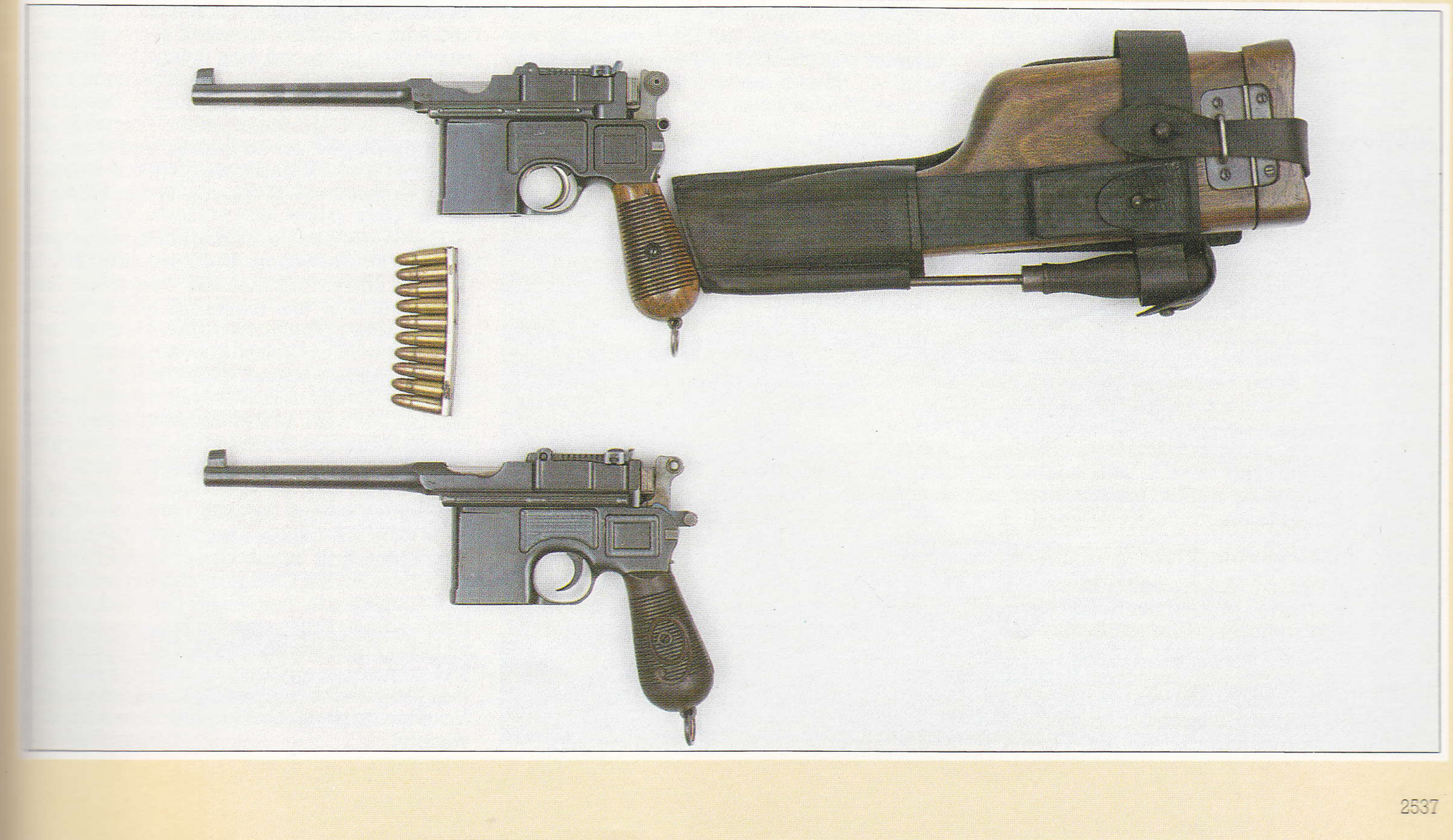
By the time World War I started the C/96 was in widespread use. Many sales were made to officers of diverse nations, for at that time an officer had to purchase his own side-arm. Many were attracted by the C/96, and many British officers sported them: Winston Churchill carried one during his spell in the World War I trenches. Most of the C/96s used by the German army during the war were a model known as the 'neue Sicherung 1912', this being a simplified variant compared with previous models, and having as standard a barrel 139.7 mm (5.5 in) long. Many were issued with the wooden stock/holsters.

It was with the introduction of this model 1912 that the company made increasingly feasible the use of the C/96 as a specialist assassination weapon by the introduction of a powerful 9-mm (0.354-in) cartridge known as the Mauser Export. This fired a bullet similar to that used in the Parabellum cartridge but at a higher muz-



Right: A German Uhlan sports a Mauser C/96 modified to fire the standard 9-mm Parabellum cartridge instead of the original 7.63-mm round. The weapons were marked on the grip with either a red or (less commonly) a black figure '9'. A few early models made for the army were chambered for the longer-cased 9-mm Mauser Export cartridge.

Below: Most Mauser C/96s were capable of being fitted with the Mauser hollow wooden shoulder stock, which doubled as a holster and carried the cleaning kit. The magazine was an integral part of the pistol and was loaded through the top of the action with the 10 round charger illustrated. Note the figure 9 on the grip of the lower pistol.



Emperor Haile Selassie sits pensively on a log after his epic march back to Ethiopia. His bodyguard carried an extraordinary variety of weapons, including the Mauser C/96 sported by the man on the right.

zle velocity (415 m/1,362 ft per second as opposed to 344 m/1,129 ft per second). This made the pistol/cartridge combination an excellent long-range weapon that could be relatively easily concealed and used at distances well above normal pistol ranges. Thus the Mauser Export pistols were often used for clandestine and assassination missions all around the world, especially in the Balkans where the C/96 was much favoured. The importance of this special cartridge must not be overemphasized, however, for the standard Mauser 7.63-mm cartridge was no mean performer in its own right.

During World War I the C/96 in its various forms did not fare as well as some other pistols when used in the trenches. The complex mechanism did not cope well with mud or dirt getting in its workings, so the C/96s were generally used by second-line units such as the artillery. They were also used with some degree of success by the newly-formed German air arm. It was almost certainly one of the first weapons ever used in air-to-air warfare when German pilots in their otherwise unarmed scout aircraft attempted to shoot at Allied pilots and aircraft flying close by. The C/96 was perhaps better than most pistols in this form of uncertain warfare and promoted Allied pilots to retaliate with pistols or rifles. It was not long before machine-guns were in use and the era of pistols in air-to-air combat passed almost as soon as it had began.

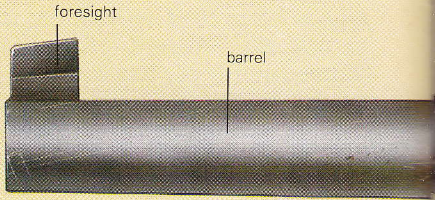
9-mm Parabellum

In World War I Mauser churned out C/96s (mainly the model 1912) in thousands to meet ever-growing demands. The standard of many of these war-time models suffered, and a change was made in 1916 to enable the pistol to fire 9-mm Parabellum ammunition. These pistols were issued with a large '9' burned into the broomhandle butt and painted red.

After the war Mauser was prevented by the Allies from supplying the German army, and so looked around for new customers. Many commercial sales were made by assembling pistols from spare parts, but the largest post-war customer was the USSR, for which Mauser produced a 7.63-mm model known as the 'Bolo', supposedly after 'Bolshevik'. This version had a barrel 99 mm (3.9 in) long and used a shortened six-round magazine. The overall appearance was cleaned-up and was much smoother than that of earlier models. These Bolos were used extensively by both sides during the Russian Civil War of the early 1920s, and more were purchased in 1926.

Far Eastern version

By the late 1920s Mauser was losing trade to a number of overseas producers of Mauser look-alikes. The attractions of the C/96 were not confined to World War I combatants, and numbers of C/96s were produced before the war for Persia and China, who took to the design with a will. Thus it was not long before nations other than Germany were producing C/96 copies for the market. Spain especially produced direct copies for sales to China and other Far East nations. The Chinese also began to produce Mauser C/96s of all types. Some were direct copies, others were simply look-alikes with differing mechanisms, and still others were produced that were downright dangerous to fire. These Chinese copies were usually liberally sprinkled with Chinese markings to denote their source of origin, and were produced in thousands for local markets.



The Spanish and Chinese also introduced an innovation. By some slight alterations to the trigger mechanism the C/96 could be converted into a form of sub-machine gun, or more correctly a machine pistol, providing fully automatic fire. The value of a weapon the size of the C/96 firing on fully automatic was dubious but its effects could be dramatic, especially at close ranges; the 10-round magazine capacity was soon exhausted and the recoil caused the barrel to climb rapidly away from the target. This did not appear to be any problem to the Chinese, who again took to these new Spanish and locally-produced automatics with a will. The weapons soon became considerable symbols of personal importance, and war lords often equipped their personal bodyguards with the guns in an effort to ensure that the men commanded respect wherever they went. The violent barrel climb was easily overcome by the Chinese: they simply turned the weapons on their side to produce a wide horizontal fan of fire.

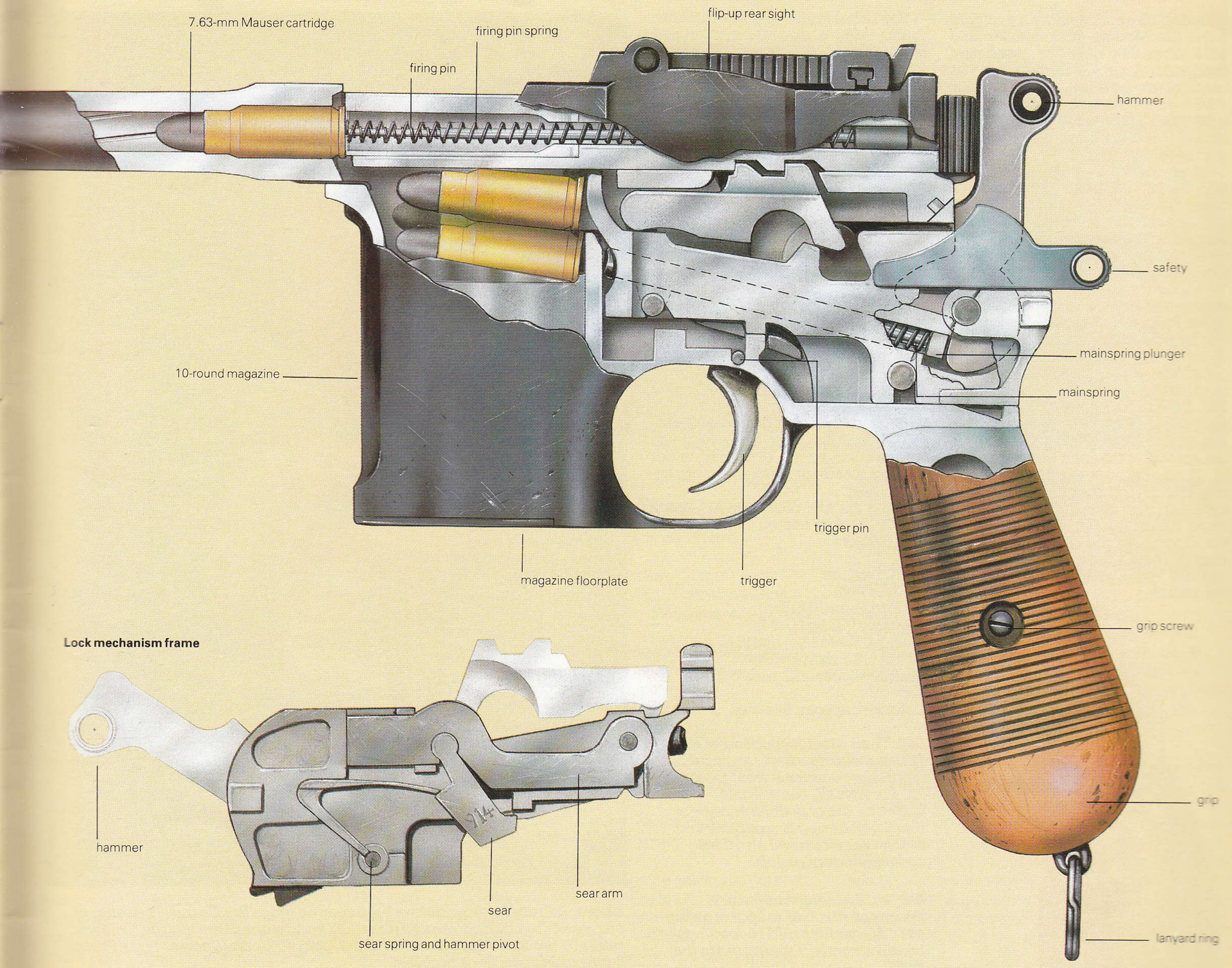
New model

Mauser was alarmed by these inroads into its market and soon (1930) produced its own model to meet the situation. The company altered the basic C/96 mechanism slightly to produce the Model 712, almost always known as the 'Schnellfeuer'. This was a more sophisticated firearm than many of the foreign models, with an elongated magazine holding up to 20 rounds and a much superior standard of manufacture; most were produced with fittings for shoulder stocks. This model became just as much a success as many of the earlier models, despite its apparent lack of combat value. It certainly demanded respect for its carrier, and was soon found to be a formidable assassination weapon: King Alexander II of Yugoslavia was killed by one in 1934.

The German military were not so impressed, but nevertheless some were procured for the German armed forces. A few went to the Luftwaffe, more to the Waffen-SS and others to various Hitler Youth units. The German navy also received a number from a batch ordered by the Chinese but not delivered. In German use the Schnellfeuers were not widely used in combat but were generally retained for Waffen-SS activities behind the lines, largely against resistance fighters and partisans.

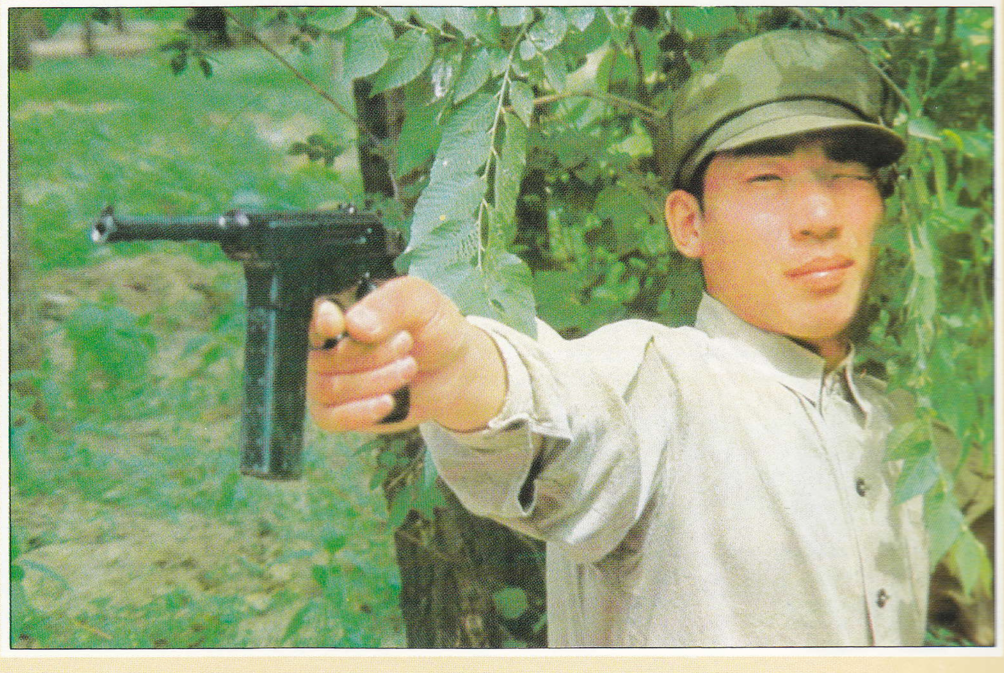
The C/96 and the Schnellfeuer went out of production before the end of World War II. Both were too expensive to produce in large quantities, and other weapons had higher priorities. But the C/96 story did not end there. The Chinese still maintained the production of their various copies and continued to use them all through the campaigns that led to the eventual communist victories of 1948-9. Even then the C/96 was still retained by some, who used it more as a badge of rank rather than a combat weapon.

Mauser C/96 'Broomhandle'


7.63-mm Mauser cartridge
firing pin
firing pin spring
flip-up rear sight
hammer
safety
mainspring plunger
mainspring
10-round magazine
trigger pin
magazine floorplate
trigger
grip screw
Lock mechanism frame
hammer
sear
sear arm
sear spring and hammer pivot
grip
lanyard ring

Even now the C/96 lives on. The Chinese still produce a version known as the Type 80. This bears no immediate resemblance to the old C/96, but the seeds are still there. The Type 80 fires a 7.62-mm (0.3-in) pistol round from a 10- or 20-round magazine in front of the trigger guard. The slide appears to be more of a simple blowback type than the complex Mauser mechanism, but without actually examining an example one cannot be sure. The pistol fires semi- or fully-automatic, and there is even a form of stock, no longer the old holster/stock but a thin telescopic device that clips onto the butt. The Type 80 even has a bayonet.

So the Mauser C/96 survives, far from its land of origin but still liable to be used in any action that comes its way. Exactly where that might be is difficult to say for the Chinese are offering the Type 80 for sale to anyone who will buy.

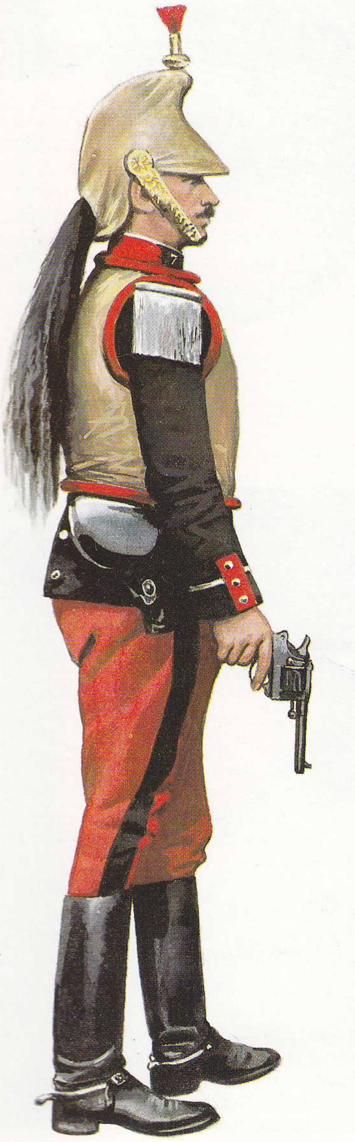


The Chinese are today offering for export the Type 80 machine pistol, which is a version of the Mauser C/96 modified for fully automatic fire. It evolved from the Chinese copies of the C/96 produced in the 1920s, when it was a favourite weapon with Chinese warlords.

Lebel revolver

The first French military revolvers were the **Modèle 1873** and **Modèle 1874**. When they were first issued they fired an 11-mm (0.433-in) cartridge that used black powder, although after 1890 a more modern propellant was substituted and some were even converted to fire the new 8-mm (0.315-in) cartridge. The only visual differences between the mles 1873 and 1874 was that the mle 1874 had cylinder flutes while the mle 1873 did not.

These two revolvers with their fixed frames and gate-loaded cylinders were still in use during World War I (indeed, many survived until World War II), but were largely replaced by a more modern design known officially as the **Pistol Revolveur Modele 1892** or the **Modèle d'Ordnance**. To most soldiers it was simply the **Lebel**. The Lebel had evolved via an interim design that fired a new 8-mm cartridge, but this interim model was not considered satisfactory and was redesigned to the mle 1892 standard by the design staff of the Saint Etienne arsenal. The Lebel was the first European revolver to incorporate a swing-out cylinder that considerably assisted rapid reloading: the cylinder swung out to the right and spent cases were ejected using a central hand-operated rod that was normally situated under the barrel.



The Lebel fired a special 8-mm cartridge using a double-action trigger mechanism. The action was very robust and heavy, which was good enough for short-range work but not forgiving enough for target-range accuracy. To clean and repair the action the Lebel had what must be one of the best mechanism access systems of any revolver. A plate at the lower left-hand side of the frame could be hinged open in a forward direction to expose the entire trigger and cylinder operating systems. Changing or cleaning any part was then very simple.

The main drawback to the Lebel when used in close-quarter action was the cartridge. It was seriously underpowered and even at short ranges inflicted wounds that only rarely knocked down an enemy. Unless a bullet found a vital spot an enemy could still continue to function – after a fashion. This drawback did not detract from the in-service popularity of the Lebel during World War I, for many front-line soldiers valued its reliability under adverse conditions more than its hitting power.

Being the first of its kind in Europe the Lebel was copied in both Spain and Belgium.

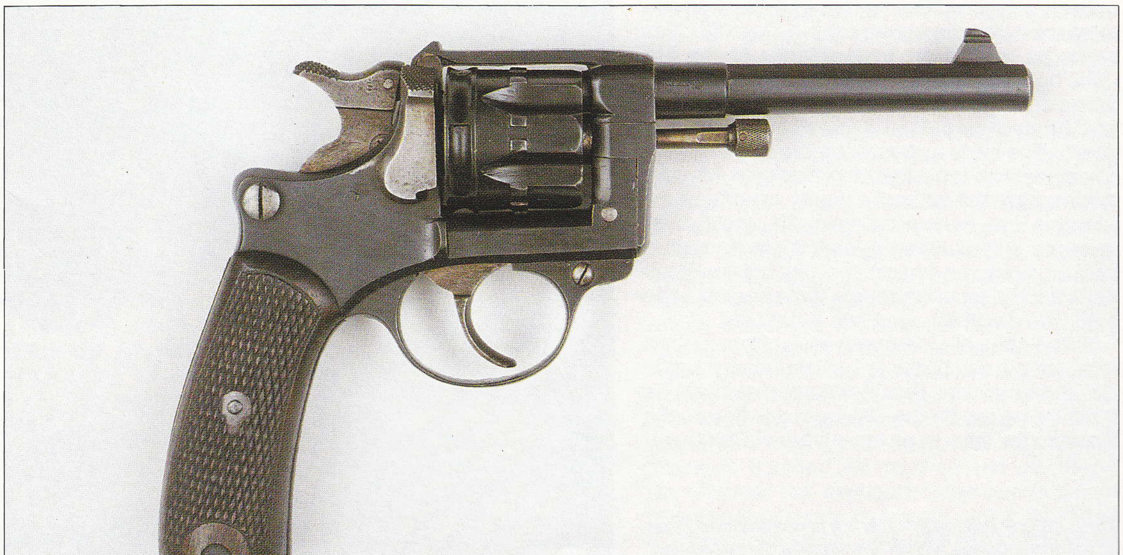
Specification

Modèle 1892
Calibre: 8 mm (0.315 in)
Weight: 0.792 kg (1.75 lb)
Lengths: overall 235 mm (9.25 in); barrel 118.5 mm (4.665 in)
Muzzle velocity: 225 m (738 ft) per second
Cylinder capacity: 6 rounds

Left: Their catastrophic losses in 1870 notwithstanding, the French cuirassier regiments went to war in 1914 in virtually Napoleonic uniforms, the only difference being that the glittering breastplate and helmet were covered and they carried modern pistols.

Below: The Lebel was the first European revolver to sport a swing-out cylinder for rapid re-loading. Inconveniently, it swung out to the right.

Above: A French officer delivers the coup de grâce *to a German prisoner of war, executed by firing squad for fatally knifing one of the guards. This was perhaps the only situation in which the lack of stopping-power of the French 8-mm round was not a problem.*



Indonesia

The Republic of Indonesia came into being on 17 August 1945 and for the next four years was involved in a struggle for existence, initially against the British in Java and then against the Dutch. A number of internal rebellions and guerrilla actions followed throughout the 1950s, and such small-scale wars eventually led to the abortive confrontation with Malaysia and the British during 1963-4, when small units of regular soldiers and marines were landed by sea and air to fight mainly along the frontier area between Kalimantan and Sarawak-Sabah. The regular units were defeated by the much more experienced British troops, with on one occasion the loss of a Lockheed C-130B Hercules transport to an RAF Gloster Javelin fighter. Since that time the armed forces have engaged in further combat against communist guerrillas, and on 7 December 1975 they invaded Portuguese Timor after pro-Indonesian parties had called for help against the left-wing Fretilin forces which controlled much of the territory. This guerrilla war is still smouldering today, as are the various contacts with communist bands in other parts of Indonesia.

The armed forces are organized according to a territorial system with regional commands known as KOWILHANs, numbered 1 to 4. Each of these has a combined service HQ group, plus separate organizations for the different subordinate services. In the case of the army, the KOWILHANs control a total of 17 KODAMs (*Daerah* military commands) which are of divisional strength (with two infantry brigades apiece) for each of the three Java-located KODAMs and the Jakarta Command, but elsewhere of brigade strength or equivalent. The naval command equivalent to the KODAM is the KODAERAL, of which there are eight, while for the air force it is the KODAV, of which there are five. Apart from these operational commands there is also the KOSTRAD (Strategic Reserve Command) which is directly responsible to the head of state, and the KOPPASSANDHA which controls the special forces groups. Although not part of the KOWILHAN joint service headquarters, there are also 17 KOMDAKs which correspond to the army's KODAMs but are made up of armed police units and are directly responsible to the governor of a *Daerah* and through him to the home minister and the people's elected assembly.

KPLP
KN 201
S A R
KUJANG

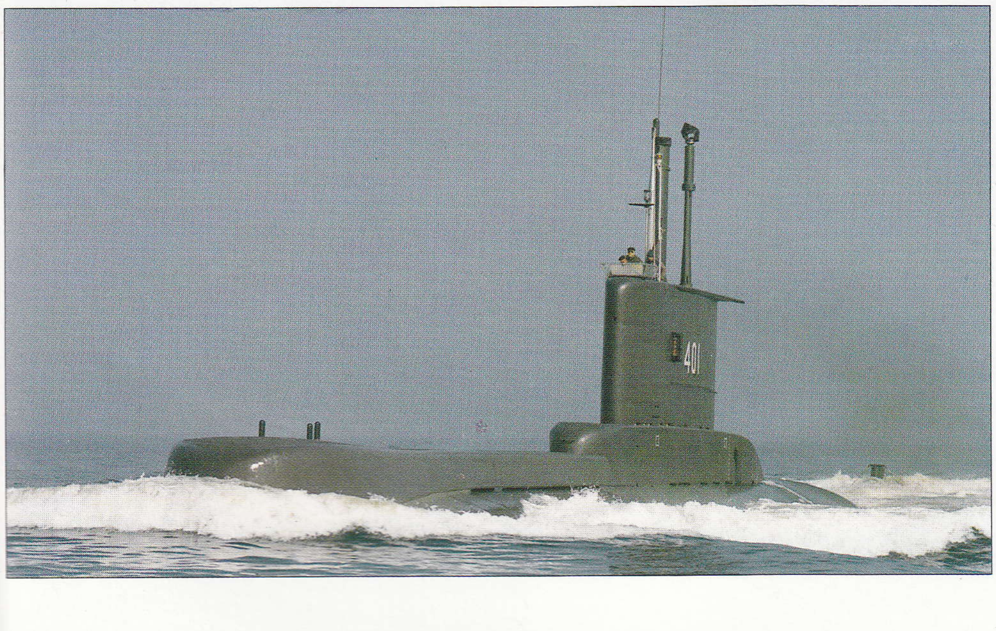
The vast size of Indonesia and the sheer number of different islands make the republic's naval forces especially important. The navy has a large number of fast attack craft, with another 40 Boeing jetfoils planned. This 38-m (125-ft) search and rescue craft, the Kujang, is one of six such vessels built in France from 1981.

The actual composition of the 210,000-strong army below the KODAM level is:

one armoured cavalry brigade (KOSTRAD-assigned),
one independent tank battalion,
seven independent armoured cavalry battalions,
four infantry divisions (each of two infantry brigades plus support units),
six independent infantry brigades (three KOSTRAD-assigned),
11 independent infantry regiments,
33 independent infantry battalions,
two airborne infantry brigades (KOSTRAD-assigned),
four independent airborne infantry battalions,
two field artillery regiments (each of three battalions),
eight independent field artillery battalions,
one air-defence artillery regiment (of three battalions),
seven independent air-defence artillery battalions,
four independent air-defence artillery batteries,
four special forces para-commando groups (assigned to KOPPASSANDHA),
one field engineer regiment (of two battalions),
six independent field engineer battalions,
10 independent field engineer detachments,
Marine Transport Force (with 14 transport ships, one LST, 20 LCUs and two tugs), and
Army Aviation (with one helicopter squadron and one composite fixed-wing/helicopter squadron flying seven NC-212 Aviocars, six Bell 205s, six Bell 212s, two Aérospatiale Alouette IIIs two Aero Commander 680s, one Beech 18, 16 MBB BO 105s and 26 Aérospatiale Super Pumas).

The equipment for these forces is a mixture from East and West, with the oldest items gradually put through an extensive series of refurbishment programmes. Most of the armour is of French and British manufacture, the former usually being surplus Dutch equipment. However, there is a thriving small indigenous arms manufacturing business centred on the Bandung Arsenal, and the heavier infantry weapons and artillery come mainly from the Soviet Union. A full list of the equipment includes:

armour: AMX-13FL-10 light tank; PT-76 light amphibious tank; Saladin armoured car; Ferret and Commando scout cars; and AMX-VCI, Saracen, BTR-40, BTR-152, ACMAT VBLA, Commando V-150 and Commando Ranger APCs;
artillery: (towed) 76-mm (3-in) M48 mountain gun, 76-mm M1942 field gun, 105-mm (4.13-in) M56 pack howitzer, 105-mm M101 howitzer, 122-mm (4.8-in) M1938 howitzer
(self-propelled) 105-mm Mk 61 howitzer;
(mortars) 81-mm (3.19-in) M1, 82-mm (3.23-in) Soviet, 120-mm (4.72-in) Soviet, 120-mm UBM-52;
anti-armour weapons: 89-mm (3.5-in) M20 rocket-launcher; 90-mm (3.54-in) M67 and 106-mm (4.17-in) M40A1 recoilless rifles; ENTAC ATGW;
air-defence weapons: 20-mm Rh202, 20-mm Oerlikon, 40-mm M1 Bofors, 40-mm L/70 Bofors, 57-mm S-60 AA guns; and
small arms: 7.62-mm (0.3-in) BM59 rifle; 7.62-mm Madsen and 7.62-mm DPM LMGs; 7.62-mm SGM MMG; 12.7-mm (0.5-in) Browning HMG.



Indonesia has two German-built 'Type 209' class diesel-electric submarines, fitted with eight 533-mm (21-in) torpedo tubes in the bow and is capable of 21 kts submerged and 11 kts surfaced. The Cakra, seen here, was commissioned in March 1981.

Indonesian navy

Because of the vast size of the island republic and the constant need to resupply outlying garrisons as well as to shift men and equipment from trouble spot to trouble spot among the islands, the navy is fairly large in manpower (29,000), light forces and amphibious warfare transports. There is also a 1,000-strong naval air arm and a 12,000-strong marine corps, the latter being considered one of Indonesia's elite strike formations. The marines are divided into two infantry regiments each of three battalions, a training regiment, a combat support regiment and an administration support regiment. Its equipment is slightly more modern than that of the army in some areas, with about 30 PT-76 light tanks, some 50 recently delivered French AMX-10P Marine APCs and AMX-10PAC90 Marine fire support vehicles, and around 30 elderly Soviet BTR-50 APCs. All of these are amphibious and capable of swimming ashore from LSTs. Artillery support is provided by some 40 Soviet M1938 howitzers, with Bofors L/70 40-mm guns available in the air-defence role. The marines (together with the air force and eventually the army) will almost certainly take delivery of some of the BAe Towed Rapier SAM systems that Indonesia has bought recently.

The air arm flies 10 ex-Dutch navy Westland Wasp light ASW helicopters, together with 18 Australian GAF N22B/L Nomad maritime reconnaissance aircraft and 14 other helicopters and fixed-wing aircraft used in the liaison, transport and support roles. A considerable expansion and upgrading of the latter is under-way, with four Nurtanio-built CASA NC-212 and 18 NC-235 transports plus 26 Super Puma helicopters on order.

The navy has now retired almost all the 104 Soviet vessels acquired in the early mid-1960s, replacing them with a mixture of new-build and refurbished Western vessels. Of the programmes undertaken, the most important since the mid-1970s are those for the three 'Fatahillah' class frigates from the Netherlands, the three refurbished 'Tribal' class frigates from the UK and the two West German-built 'Type 209' conventional submarines.

A full listing of the vessels in service includes:

submarines: two 'Type 209' (plus a further unit on order);
frigates: three 'Fatahillah', three 'Tribal', four ex-US 'Claud Jones' and two ex-Soviet 'Riga';
light forces: two 'PB57' fast attack craft, eight MM.38 Exocet-armed 'PSMM Mk 5' missile boats, two 'TNC45' torpedo attack craft, three ex-Soviet 'Kronshtadt' large patrol craft, four ex-Yugoslav 'Kraljevica' large patrol craft, five ex-Australian 'Attack' large patrol craft, one ex-US 'PC461' large patrol craft, eight coastal patrol craft, and five Boeing jetfoils (with up to 40 more planned);
mine warfare forces: two ex-Soviet 'T43' ocean minesweepers and four Italian 'Lerici' minehunters (on order);
amphibious warfare forces: 15 LSTs, four LCUs, 40+ LCMs and 20+ LCVPs; and
support ships: four survey, two submarine tender, one repair, two tanker, three harbour tanker, two transport, three training, one cable and about 30 miscellaneous vessels.

There are also a small number of mainly ex-Soviet ships used as alongside hulks for training, depot or accommodation duties.

Indonesian air force

Although the army and navy are large, the 29,000-strong air force has very few combat aircraft to defend the republic against external aggressors. As with the navy, a considerable proportion of the air force's strength is devoted to the transport and communications roles around the myriad Indonesian islands. There is only one interceptor squadron, which flies a total of 11 Northrop F-5E fighters and four F-5F operational trainers. For the ground-attack mission there are two squadrons of 30 McDonnell Douglas A-4E fighter-bombers and four TA-4H Skyhawk operational trainers bought secondhand from the US Navy and Israeli air force. A counter-insurgency (COIN) capability is provided by a squadron of 15 Rockwell OV-10F Broncos, and the three training squadrons fly BAe Hawk Mk 53 jets, Beech T-34Cs, Cessna T-41s and FFA AS202 Bravos. For maritime patrol and economic zone protection flights the air force has a mixed squadron with five Grumman HU-16 Albatross SAR amphibians, three Boeing 737 Side-Looking Airborne Radar (SLAR)-equipped commercial jet conversions and a single Lockheed C-130H-MP Hercules.

The transport fleet is formed into four fixed-wing and three helicopter squadrons with a miscellany of aircraft. The most important fixed-wing types are the 22 C-130B/H/HS and L-100 Hercules transports and 21 locally-built NC-212 Aviocars. A total of 32 NC-235s is being delivered to replace such elderly aircraft as the Douglas C-47 Dakota. Of the helicopter fleet the most modern types are the SA 330 Puma and SA 332 Super Puma. Again, local production of the BO 105, the MBB/Kawasaki BK117, the Super Puma and the Bell 412 is allowing the retirement of older machines such as the Bell 47G and the Sikorsky UH-34T. Apart from aircraft, the air force also has under its command five battalions of lightly armed troops. These act as a rapid deployment force to trouble spots, either in support of or actually before the army arrives.

This British Aerospace Hawk T.53 is one of 12 delivered in two batches to Indonesia in 1980; the version is a dual-role trainer and attack aircraft. The Indonesian air force has only 11 interceptor aircraft, the bulk of its strength being devoted to transport and communication roles.